



FOODS AND COOKERY



BEGINNING YOUNG

IN THE NURSERY SCHOOL IT IS A COVETED PRIVILEGE TO WASH THE DISHES AFTER THE MID-MORNING LUNCH. FRANCIS, AGE THREE AND A HALF YEARS, AND CALISTA, AGE FOUR, ARE SHOWN ENJOYING THE REWARD OF MERIT. IT IS TO BE HOPED THAT THEY WILL ALWAYS ENJOY WASHING DISHES AS MUCH AS THEY DO NOW.

FOODS AND COOKERY

FIRST LESSONS IN FOODS AND COOKERY, FAMILY
RELATIONSHIPS, THE CARE AND MANAGE-
MENT OF THE HOUSE, THE CARE OF
CHILDREN, HEALTH RULES, AND
MARKETING

REVISED EDITION

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PREFACE

THIS volume is intended for use in classes beginning the study of Foods and is strictly an elementary treatment of the subject. In addition to the subject matter on Foods and Cookery it embraces such topics as Family Relationships, the Care of the House, Marketing, and the Care and Feeding of Children. The subjects are correlated so that the student sees the relationships between the different phases of housekeeping and home-making — a plan which it seems desirable to follow in elementary courses in Home Economics. While there are a number of elementary textbooks on Home Economics, there seems to be a need for one relating the different phases of the subject which are taught in the elementary or junior high schools.

The author appreciates the help given in illustrating the book by the United States Department of Agriculture, the United States Bureau of Standards, the United States Bureau of Education, the Detroit Stove Works, Landers, Frary and Clark, the Chambers Manufacturing Company, the Woman's Home Companion, the Curtis Publishing Company, the Pictorial Review, the Trinity Court Studios, the Department of Agricultural Extension of Purdue University, the Household Refrigeration Bureau of the National Association of Ice Industries, and the Minneapolis Public Schools. The author also gratefully acknowledges the criticisms and suggestions of educators who kindly read the manuscript.

M. L. M.

AUGUST 1, 1926

TO THE STUDENT

HAVE you thought about what you will do when you finish school?

Perhaps you have decided to be a teacher, a librarian, a stenographer, a doctor, a nurse. Perhaps you are making plans to take a course in high school or college that will fit you for one of these callings; you would not consider yourself capable of entering any of them without training.

Very probably you will be at some time the manager of a home. Have you thought about the importance of being trained for home-making?

It is only within the past twenty-five years that it has been considered proper for the public schools to train girls for the work which most of them will do for the longest period in their lives, the work of home-making.

Mrs. Ellen H. Richards was the first to say that the schools ought to teach "right living"; and, largely through her efforts and her inspiration, plans have been worked out whereby girls while in school can be taught many things about right living.

Right living begins with the home. Who makes the home? The man may furnish the money to build and maintain the house, but it is the woman who plans and manages the home. It is her business to see that the family lives in a sanitary and an attractive house; that every member of the family has clean, properly selected, and well-cooked food; that every one is suitably clothed; that the family income is wisely

spent ; and that all in the home are helped to lead a happy and useful life.

No girl should consider the making and managing of a home an easy piece of work, for in fact nothing is harder to do and to do well.

When the girl takes work in school and college that covers all phases of home-making, we say that she is taking a course in Home Economics.

SUGGESTIONS

WHEN planning a course in Home Economics for any school it is essential that the teacher should know from what kinds of homes the students come ; what is the average income of the families of these girls ; what nationality they represent ; what is the social life of the neighborhood. It is impracticable to follow any textbook, page by page, without first knowing whether the lesson-plans suit the students to whom they are presented. When the teacher knows the neighborhood, she can wisely select and arrange the parts of the book to be assigned.

In many cases the recipes outlined in this book should be changed ; and in no case should they be used as presented when the teacher has recipes which she has tested and knows to be good, and which may be used to illustrate the principle that is under discussion.

The Foods and Cookery lessons are outlined on the meal basis, making the meal the project, while the lessons on various foods are the problems to be studied before the project is completed. It is desirable that the laboratory equipment should include dining-room equipment ; but, when that is not available, serving the meal on a supply-table or at the individual desks may be the plan used. In any case the girls should be urged to try the work at home, making reports on the work done.

Lessons in Health, Family Relationships, and the Care and Management of the House are so correlated that the student may see the relationships between the various activities connected with housekeeping and home-making.

The book is divided into sections instead of lessons, thus giving the teacher the opportunity to use as much or as little as is desired at any one time, since the amount of time allowed for Home Economics varies greatly in different schools.

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FOODS AND COOKERY
THE CARE OF THE HOUSE
FAMILY RELATIONSHIPS
CARE OF CHILDREN
HEALTH RULES
MARKETING

THE HOME AND THE FAMILY

A HOUSE becomes a home when it is a happy, restful, and inspiring place in which to live ; when it is equipped and managed in such a way that the family leads a healthful, useful existence ; when children can be reared in the best kind of surroundings, with intelligent care, and when the members of the family can take their share of responsibility in community affairs.

A family consists of the father, mother, sons, daughters, and perhaps grandparents, aunts, uncles, and cousins. Each member of the family should do his or her share in making the home ; it is not right to place all the responsibility on mother and perhaps on father. Grandparents, uncles, and aunts can help ; each son and each daughter should do his or her share.

What share can the daughter take in making the home ? She will probably become a home-maker herself some day, and during her girlhood she should be trained in the home-making duties.

First, it is necessary that the girl should have the right personal qualifications for home-making. One of the most important is good health ; no woman can do her share of the world's work when she is not strong, when she is irritable or nervous. A girl should learn how to take care of her health through wearing comfortable clothing, eating properly planned meals, sleeping, resting, and exercising in proper amounts. She

should have a happy disposition and poise, should be sympathetic and patient with others, generous, and always willing to do her part. She should be neat and careful of her personal appearance; no home-maker is attractive when she goes about the house with her hair uncombed or wearing dirty or inappropriate clothing.



A HAPPY FAMILY

MOTHER IS READING A STORY TO THE CHILDREN AND LITTLE BROTHER IS MUCH INTERESTED IN THE PICTURES

The good home-maker organizes her work so that each person in the household has certain tasks to perform. If the mother in the home does the housekeeping, the daughters should do their share willingly, helping with the meals, caring for their bedrooms, dusting, helping in the care of small children, and assisting with the mending, sewing, or any other tasks which are a part of the housekeeping schedule.

The daughter of the house should do the work in-

volved in getting ready for a party when she is entertaining her friends in her home. The thoughtful daughter never allows her mother to do any part of the work that she can perform.

The members of a family should be helpful, loyal, kind, considerate, and polite to each other. It is just as important to be polite to members of one's family as to people outside the home. A quarrelsome family is not found in the best type of home.

The family should be companionable, should enjoy each other, and should be helpful to each other. Each member should be interested in the things that interest others in the family. Sisters should be intelligent about the things that interest their brothers, brothers in the things that interest their sisters, the young people in affairs of interest to their parents. A family should enjoy being together and should find pleasure in doing things together. It should not be necessary for boys and girls to go away from home to have a good time with other people.

The family as a whole should know about the neighborhood activities, interests, and needs, and should be willing to assist with community movements. A community can be improved only when the people in it desire to see things changed and when they are willing to use time and effort in helping to better conditions. Owning one's own home makes one more interested in seeing a community improve; however, when one rents a home it is desirable that the family should take their share in community activities. Even when living in an apartment one may assume some part in community affairs.

"A community is as good as its individual homes." Through the efforts of a family the individual home is developed either successfully or unsuccessfully; the

community is made up of these homes and becomes either a desirable or an undesirable neighborhood. It should be the wish of every girl to help to create the right kind of home.

HOME PROBLEMS AND QUESTIONS

Make a list of all the things your mother does which help to make your home a happy place in which to live. What do you do to help? How can your father and brothers help in making a happy home? Suggest ways for the family to spend their leisure time together during an evening at home. Suggest other ways to spend this time together outside the home.

Make a list of books that could be read aloud together. Have you ever read any books which describe the homes of Colonial days? Perhaps some one can tell you how the homes of Civil War days differ from those of to-day.

What could be done to make your community a better place in which to live? Ask your mother and father about this. If there are any public playgrounds or parks or a community building in your community, find out how these are supported. Who pays for the schools?

In what ways can you help in improving your community?

LABORATORY EXERCISES

DIRECTIONS FOR WORK IN LABORATORY

Personal appearance: 1. A wash dress is always to be preferred in the school laboratory or home kitchen.

2. White aprons should be worn in the cooking laboratory. There are several types that may be used.

3. Holders for lifting hot dishes, and individual hand towels, should always be used by every student. With bobbed hair, a cap or headband should always be worn.

5. The hands should be thoroughly washed and the nails scrubbed with a brush and cleaned thoroughly before you begin any cooking. When cooking, wash your hands whenever they become sticky or soiled.

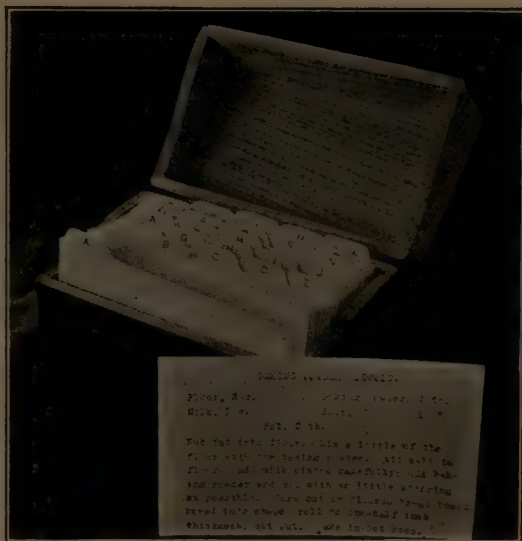
6. Do not wear rings, bracelets, or other jewelry in the kitchen.

Checking equipment.

Discussion of rules regarding care of towels, desks, implements, etc.

Explanation of the kind of notebooks, reference books, or textbooks required.

Explanation of the method of using a card file for recipes. Each student should begin one. Why is it also desirable to have cook books for reference? Make a list of cook books which are "standard" (used very generally). From what other sources may one obtain recipes?



ONE CARD USED FOR EACH RECIPE. CARD
MAY BE HUNG IN A CONVENIENT PLACE WHEN
RECIPE IS BEING USED

THE HOUSE

People in the United States like to live in comfortable houses and we build the best arranged and equipped houses of any nation in the world. In the high schools and colleges courses are given in House

Planning and Furnishing for the purpose of making as many young women as possible familiar with the rules underlying the planning and furnishing of a comfortable house. The house which is well planned is an easier one in which to do housekeeping, and for this reason, if for no other, it is worth while to study this subject before building a house or selecting one to rent or buy. A house, to be comfortable, should be convenient, sanitary, and beautiful.

A house which is convenient: (1) has rooms which are compactly arranged and connected; (2) has rooms that are large enough but not larger than needed; (3) has only rooms enough to supply the space needed by the family; (4) has each room planned so that the furniture can be arranged in it correctly; (5) has walls, floors, and furnishings that can be easily cleaned; (6) has plenty of closets and cupboards for storage space.

A house is a healthful place in which to live when: (1) it has plenty of windows and doors to furnish light and air; (2) when its working surfaces are at a height which prevent stooping at work; (3) when all equipment is arranged to prevent unnecessary walking and standing; (4) when there are enough bedrooms so that not more than two people need to sleep in any room; (5) when good artificial lighting is provided; (6) when the interior of the house is so finished that it can be kept clean; (7) when the plumbing and heating systems are correctly installed.

A house that is beautiful has (1) artistically finished and decorated walls and floors; (2) window draperies that harmonize with the walls and furnishings; (3) furnishings that are appropriate to type, size, and kind of house; (4) the building as a whole well designed, and suited to the locality.

Before selecting or making the plans for a house, or before renting one, a study should be made of the rules governing house-planning and furnishing, of art, sanitation, and hygiene. One should observe the houses of other people to see what features are desirable.

To-day houses are smaller because the cost of building is so great, and because women have found that they do not need unused rooms in their houses and that many rooms are more convenient when not so large. To economize space, sometimes one room is used for both living and dining room, or there may be a breakfast nook instead of a dining room; in-a-door beds may fold or slip into closets or other spaces when not in use, thus making it possible to use the room for a living room or for other purposes during the day, and as a bedroom at night; pantries and entrance halls have been left out of many small houses. The rooms in some bungalows and apartments are too small to be convenient, and this fault should be watched for in selecting a house or a house plan.

Walls finished in oil paint and hardwood floors, simply designed furniture without much upholstery, draperies that can be cleaned easily, little bric-a-brac, no unnecessary furnishings, all help to make a house an easy one to keep clean and in order.

LABORATORY EXERCISES

MEASUREMENTS

Careful measuring or weighing of the ingredients used in a recipe is very necessary if the results are to be of the best. The utensils commonly used for measuring foods are: scales, measuring-cup, measuring-spoons, tablespoons, and teaspoons. In measuring dry materials, fill the measure and level off the top with a knife. When one half teaspoon is desired, divide

10 ELEMENTARY HOME ECONOMICS

the material lengthwise of the spoon and scrape out one half. For one fourth teaspoon divide crosswise the remaining half.



KITCHEN EQUIPMENT

DOUBLE-BOILER, VEGETABLE PRESS, SCALES, OVEN AND CHEMICAL THERMOMETERS, MEASURING-CUPS, SPATULA, WOODEN SPOON AND BREAD RACK

Experiment :

Use water for the following :

1. To find the number of teaspoons in one tablespoon.
2. To find the number of tablespoons in one cup.
3. To find the number of cups in one pint.

Use sugar for the following :

1. To find the number of tablespoons in one cup.
2. To find the number of cups in one pound.

Use flour for the following :

1. Fill the cup by dipping it into the flour ; weigh.
2. Fill the cup by using a spoon ; weigh.
3. Sift the flour, fill the cup by using a spoon ; weigh.

Use salt for the following :

1. Measure one half, one fourth, and one eighth teaspoon.

Discuss ways in which oranges may be served for breakfast. Prepare them in several of the ways sug-

gested. The following are common methods of preparing oranges :

1. Wash the orange, cut through crosswise, serve on plate.
2. Wash the orange, remove the skin and as much of the white portion as possible, divide in sections, arrange attractively on plate, serve.
3. Wash the orange, cut in halves, squeeze out the juice, using the lemon-squeezer ; put juice in glass, cool, set on fruit-plate, serve.

THE KITCHEN

The rooms in a house are divided into the sleeping rooms, work rooms, and living rooms. The kitchen is one of the work rooms ; it is a workshop where food is cared for, prepared, cooked, and served.

The most convenient kitchen has windows or doors on two sides of the room, so that when these are open a cross draft of air clears the room of smoke and odors.

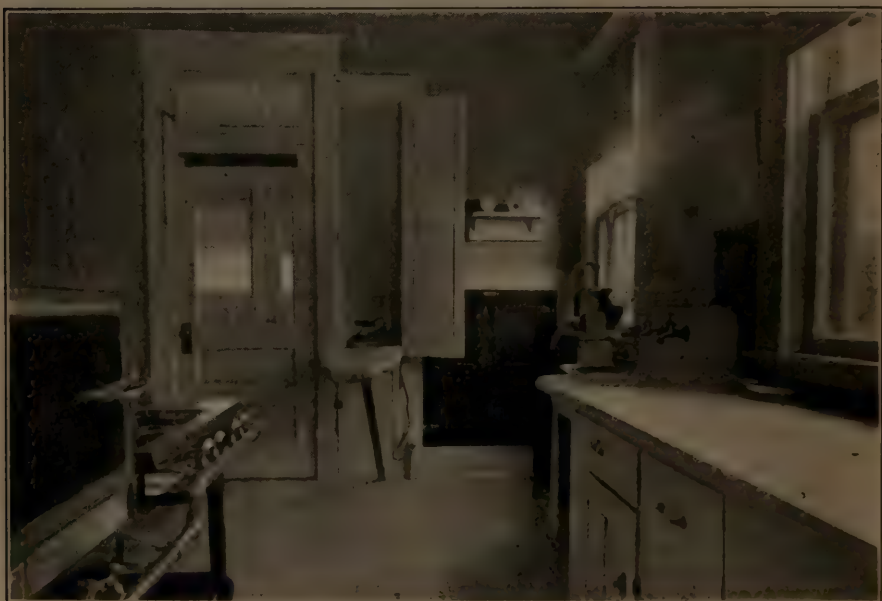
A kitchen is a pleasant place in which to work when the view from the windows is attractive. Especially is this true in the country, where it is much better to look at the hills, woods, or fields than to look into the barnyard or chicken yard.

The kitchen should be the cleanest room in the house. The most sanitary kitchen has walls finished in material that can be washed, such as oil paint, or tile. Walls and woodwork should be light in color, because this makes the room seem more cheerful and also makes it easy to "see the dirt", which then may be removed.

Tile floors are good in a kitchen, but are expensive. Rubber mats or runners may be placed over the tile floors where workers walk or stand, and rubber heels should be worn on the shoes of those working in such a kitchen, thus preventing the jar to the body which is objectionable. Some composition floors are suitable

for the kitchen. A kitchen floor may be made of hardwood, oiled or waxed, and used without covering; but this is a type of floor requiring a great deal of care.

Soft-wood floors may be covered with linoleum or cork carpet, or they may be painted; but the linoleum-covered floor is the best. Inlaid linoleum is preferable

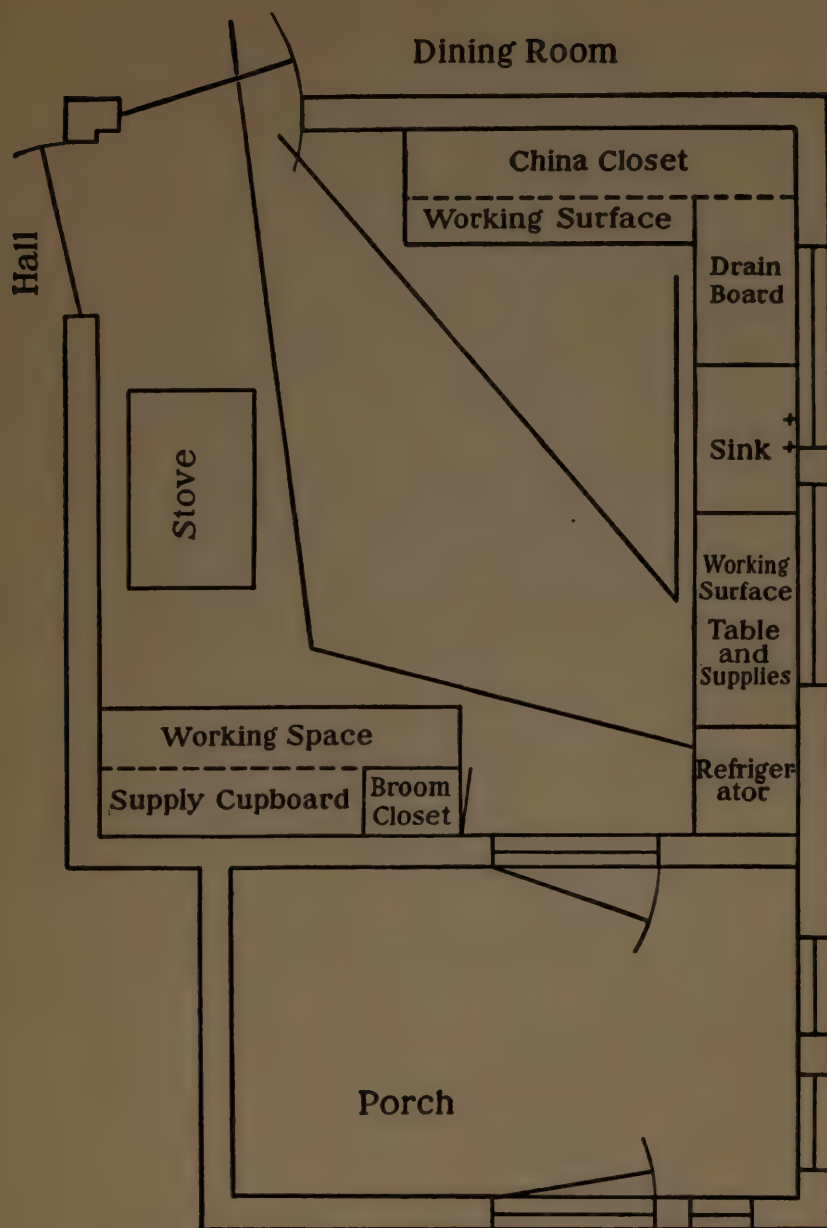


A CONVENIENT KITCHEN

WITH BUILT-IN IRONING BOARD, REFRIGERATOR AND WORK-TABLE

to printed linoleums because it wears better. Any linoleum should be laid so that water cannot get under it. This is done by using a linoleum cement at all the seams and around the edges. Linoleum varnish should be put over the linoleum to protect it from grease and wear. It should usually be varnished twice a year.

The kitchen should have built-in cupboards with plenty of space for utensils. Shelves should be 10 inches, 12 inches, or 14 inches deep, and adjustable, so that they can be made to fit the articles to be kept



"ROUTING LINES" IN A WELL ARRANGED KITCHEN

IF THE REFRIGERATOR WERE BUILT INTO THE WALL NEXT TO THE PORCH IT
COULD BE FILLED FROM THE OUTSIDE

on them. Cupboard doors are preferably made without glass in them. The shelves and insides of the cupboards should be finished with enamel paint, so that no papers or oilcloth need be used on them. All cupboards should extend to the ceiling or should have the wall built down to their tops, so that there will be no place for dust to collect on top of the cupboards.

The sink, with a drain board at each end, should be set where there is plenty of light, and it should be open underneath to avoid the dampness often found in sink cupboards.

A porcelain sink, with the drain boards, splash board, and sink all in one piece, is the very best type, but because of the expense of such a sink one made of enameled iron of good quality may be substituted. A sink should be high enough so that the worker does not need to stoop when using it.

The kitchen may have a built-in ice-box arranged to be iced from the outside of the house. Electric refrigerators are now used in some homes; they are satisfactory, but expensive. Some kitchens have a dumb-waiter to the basement.

If an ironing board is used in the kitchen, it may be built into a space in the wall, being let down when needed and folded back when not in use. If there is a laundry in the house it is a better plan to put the ironing board there.

Other devices sometimes found in the kitchen are: a closet for cleaning-implements, such as broom, bucket, and brushes; a cupboard for the leaves of the dining-table; and a built-in kitchen cabinet. There may also be a pantry.

Each housekeeper decides for herself how to make the kitchen a well arranged and equipped workshop. In a well arranged kitchen the equipment is so placed

that the housekeeper can use it without losing time or wasting strength in walking.

HOME PROBLEMS AND QUESTIONS

Make a drawing of your home kitchen, showing where the sink, the cupboards, the table, the stove, and other equipment are placed.

Notice with care the steps taken by a person preparing breakfast, and then make dotted lines on your drawing to show where she has walked. Such a line is called a "routing line."

Do you think any of the equipment could be changed to make the kitchen more convenient?

Bring your drawing to school for discussion.

Examine samples of inlaid, printed, and plain linoleum. In what widths can linoleum be purchased? Ask a dealer to explain the method of laying linoleum, using cement.

Make a list of all the makes of kitchen cabinets which you find advertised in magazines or which are sold in the local stores. From what firms may "units" to be built into kitchen walls be purchased?

Is there storage space in the basement of your house? How are the walls finished? How is the space ventilated?

What is an incinerator? How may it be installed in a house?

LABORATORY EXERCISES

STUDY OF STOVES

Experiment :

Examine the stoves to be used in the laboratory. If a gas range :

1. What kinds of ovens are there?
2. Is there a pilot to use when lighting the ovens?

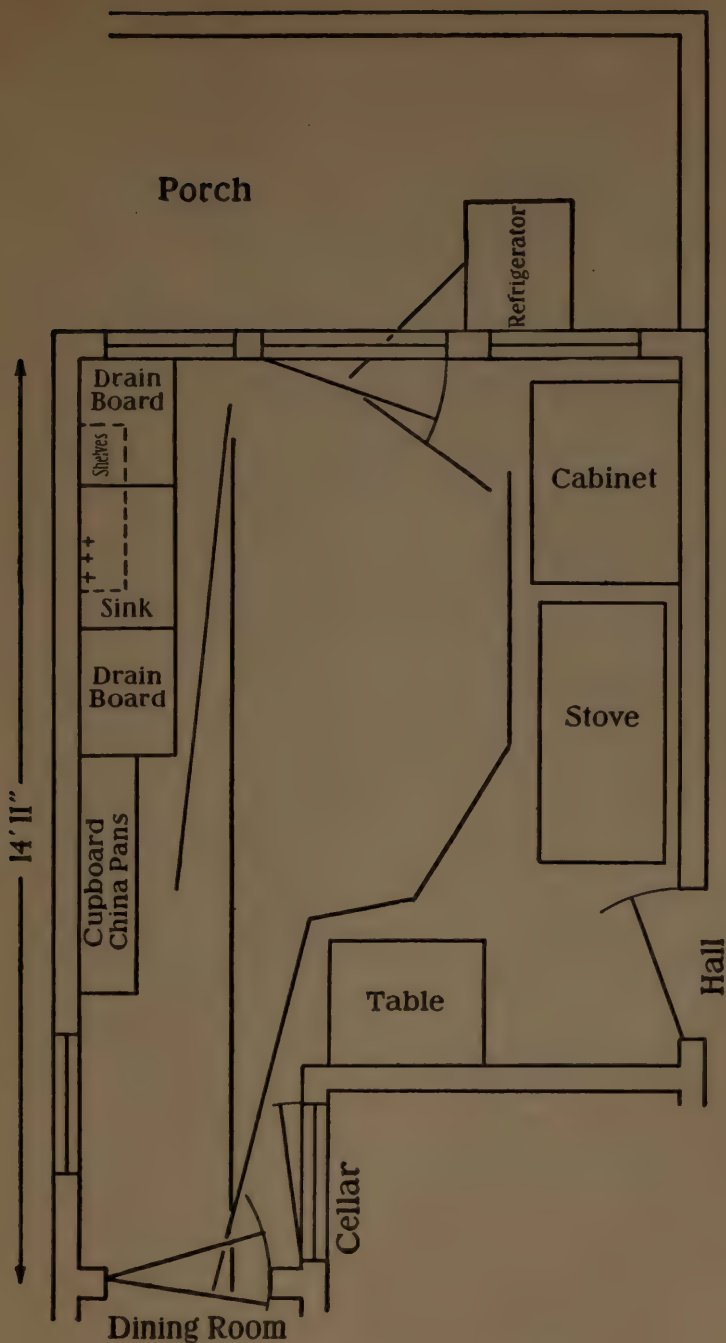
3. Do the oven doors fasten tightly?
4. Does the top burner have a stationary or a movable mixer?
5. If there is a movable mixer, light the gas burner and observe the color of the flame; turn the mixer and observe the flame.
6. What color should the flame be to give the most heat?
7. Place a bright clean kettle, containing a small amount of water, over the yellow flame. What happens to the outside of the kettle?
8. What is the use of the mixer?
9. How is the top burner removed for cleaning?
10. Can other parts be removed for cleaning?
11. Is there a thermostat on the stove? How is it used?

If a coal or wood range :

1. Examine the firebox to see how it is constructed.
2. Where is the ash-pan? How are the ashes removed?
3. Find the dampers on the stove, and determine the use of each.
4. For what is the stovepipe used?
5. How does the heat warm the oven?
6. Lay the fire in the following manner. Clean the firebox and ash-pan, crumple paper and put a generous layer over the bottom of the firebox; place kindling on top of the paper in such a way that the air passes between the pieces; place one large or two small shovelfuls of coal or sticks of stove wood on top of the kindling. How shall the drafts be arranged before the fire is lighted? Clean the top of the stove before lighting the fire.

If an electric range :

1. What kinds of ovens are there?
2. Where are the switches for turning on the heat for the oven?
3. How are the switches adjusted for the right temperature required for the cooking process?



"ROUTING LINES" IN A KITCHEN

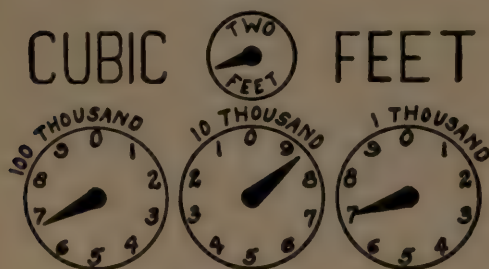
A WHEEL-TRAY WOULD BE A GREAT CONVENIENCE IN REMOVING DISHES FROM THE DINING ROOM

4. Use the oven thermometer and see how long it takes to heat the oven to a temperature of 350° F. Compare the time with that required for heating the oven on a gas range to the same temperature.
5. Compare the price of the electric range with that of a gas range of the same type. When would it be economical to use an electric range?

READING GAS AND ELECTRIC METERS

In order to know the cost of the gas and electricity you use in your home, it is necessary to learn to read the gas and electric meters.

To read a gas meter: Gas is measured in cubic feet as it passes through the meter. Look at the gas meter used in your home and you will see the dials arranged as in the drawing shown below. The right-hand dial is marked "one thousand" and means that 1000 cubic feet of gas has passed through the meter during one complete revolution of the hand. The center dial indicates that ten



GAS METER

TOTAL READING OF METER IS 68,700 CUBIC FEET

thousand cubic feet has passed through the meter, and the left-hand dial indicates that one hundred thousand feet has passed through. The small dial, usually above the other three dials, measures two cubic feet and is used in testing the meter or

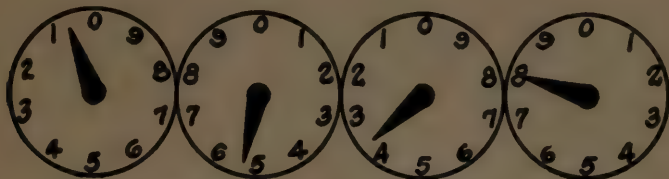
when measuring small amounts of gas. When reading the meter, the small dial should not be read.

The two outside dials have their figures running from the right around to the left side of the dial, while the center dial is arranged with the figures running from left to right, and must be read in the opposite direction from the other two. Always use the lower number when the hand points

between two numbers. The reading of the dials in the drawing indicates 68,700 cubic feet.

To determine the amount of gas used since the last reading, subtract the total amount of the last reading from 68,700 and the remainder will indicate the amount used. Practice reading a gas meter.

To read an electric meter: Electricity is measured by the watt hour or kilowatt hour. A kilowatt hour is 1000 watt



KILOWATT-HOURS

ELECTRIC METER

TOTAL READING OF METER IS 0538 KILOWATT HOURS

hours. Electricity is measured by a watt-hour meter, through which the current passes as it enters the house. There are four dials on the face of a watt-hour meter arranged as in the drawing shown above. Which dials are to be read from left to right? Read the left dial first and put down the number which the hand has just passed; then read the next dial; then the third; and then the right-hand dial, putting the numbers down in the same order as the dials. The number indicates the total number of kilowatt hours used. Practice reading the electric meter.

Bring to class tested recipes for beverages that are refreshing to use in hot weather. What is a "tested recipe"? Select one or two to make in the laboratory. Practice making others at home. The following are refreshing beverages:

ORANGEADE

Juice of one orange
 $\frac{1}{2}$ tsp. lemon juice

$1\frac{1}{4}$ tbsp. sugar
 $\frac{2}{3}$ c. water

Mix ingredients thoroughly. Perhaps the mixture may need straining. Chill before serving.

Fruitade or lemonade may be made also.

LEMONADE

Juice of 3 lemons

$\frac{3}{4}$ c. sugar, or more if desired

1 qt. water

Mix the sugar with the juice; add the water. Fill a glass two-thirds full, add cracked ice (small pieces), and place one slice of lemon on top of each glass. How may the flavor of lemonade be varied?

APPARATUS FOR THE KITCHEN

Stoves are of various types and must be selected to suit the kind of fuel to be used and the size of the kitchen in which they are to be placed.

A fuel is a substance which when burned produces heat, and it is this heat that cooks food when applied to it.

Wood, coal, gasoline, kerosene, manufactured and natural gas, are the fuels commonly used. Electricity is also used for cooking, but is not a fuel. The stove is the apparatus in which the fuel is burned and through which the heat is given off.

In selecting a stove or range, choose one that is plain in design and has little nickel finish. A stove covered with decorations is hard to keep clean.

Porcelain-finished gas and electric stoves are easy to keep clean. Many gas and electric ranges have the oven built on a level with the top of the stove. The oven is easier to use in this position than when underneath the burners.

Gas and electric stoves are now made with fireless cooking attachments for both boiling and baking.

While these are more expensive in price than other types, they are great savers of fuel when properly used.

A stove must be in good condition if it is to do good cooking. A coal or wood range must have soot and ashes removed regularly from the inside of pipes, firebox, and ash-pit. Whenever gas burners cannot be regulated to burn without a yellow flame, they must be taken apart and cleaned by boiling in a weak solution of soda.

There should be in the kitchen a supply of cooking utensils of the right kind to meet any need. Good utensils to use for boiling,

stewing, and steaming are made of aluminum or enamel ware of good grade; for baking, earthenware, glass, sheet iron, and tin are used; iron is used for sautéing and frying.

Aluminum, wooden, or heavily plated tin spoons are needed in the kitchen. These are better than enameled spoons because enamel is apt to chip off when the spoon strikes hard surfaces. Steel knives are best with the steel blade running through and riveted into the wooden handle. One or more spatulas should be a part of the equipment.



A FIRELESS GAS RANGE

Any device that aids in doing work well, but more quickly and easily than it has been done before, is a labor-saving device.



SECTIONAL VIEW OF STOVE
SHOWING CIRCULATION OF AIR AROUND OVEN

Fireless cookers, pressure and steam cookers, cake- and bread-mixers, food-grinders, and double-boilers are examples of labor-saving devices that are useful in the kitchen. Every housekeeper should have as many labor-saving devices as possible.

The equipment in the kitchen is arranged in two

centers: (1) the preparation center, where the food is prepared, cooked, and served; (2) the cleaning-up center, where the food is put away and the dishes are washed and placed in cupboards. The general arrangement of the preparation center should be as follows: the storage spaces for food to the left of the work table or cabinet, the stove to the right of the work table or cabinet, and the serving-table or serving-tray to the right of the stove and close to the dining-room door. All small equipment needed at the work table or cabinet, or at the stove, should be placed where it can be reached quickly and without walking. In the cleaning-up center the stack table, for the dishes should be at the right of the sink, the drain board at the left of the sink, and the dish cupboards at the left or above the drain boards and next to the dining room; all small equipment used in washing dishes should be close to the sink. It is very difficult to arrange some kitchens so that all unnecessary steps can be avoided, so that there is good light on all working surfaces, and so that all small equipment is placed conveniently for work. In planning a new kitchen great care should be taken so that it can be made an efficient workshop.

HOME PROBLEMS AND QUESTIONS

Find the price of the following: a gas range, a coal or wood range, a two-compartment fireless cooker, food-grinders, double-boilers, spatulas, refrigerators, garbage-cans.

Look through the advertisements in the magazines and papers, at home or in the public library, and make a list of other labor-saving devices and cooking utensils not named in the lesson. How many of these have you seen used?

24 ELEMENTARY HOME ECONOMICS

Make a list of all the utensils you consider necessary in a kitchen ; then make a second list of those utensils you would like to have but which are not necessary. What is the price of the utensils in the first list ? Bring the lists to school for discussion.



MODEL SINK

A SINK PLACED HIGH ENOUGH TO BE CONVENIENT FOR A TALL PERSON ; NOTE THE EXTENSIONS ON THE LEGS. THE DISHES ARE SLID THROUGH THE OPENING TO THE PANTRY WHERE THEY CAN CONVENIENTLY BE PUT AWAY IN THE DISH CUPBOARDS WHICH ARE PLACED ON THE WALL BACK OF THE SINK. IN THE LOWER LEFT-HAND CORNER IS A FIRELESS GAS STOVE, AND IN THE PANTRY A TEA-CART

Visit a hardware store, if possible, to study new types and kinds of equipment.

What is the price of an electric refrigerator suitable for use in your home ? Perhaps you have one, or you have seen one at a neighbor's house. What are the advantages and disadvantages in using an electric refrigerator as compared with an ice refrigerator ?

Where should matches be kept in the kitchen ? Why ?

LABORATORY EXERCISES

TEMPERATURES

Experiment:

Examine the thermometer to be used in taking temperatures.

1. Is it a Centigrade or a Fahrenheit thermometer?
2. What is "boiling-point" on each? Freezing-point?
3. (a) What is the temperature of one cup of water in the top part of a double-boiler after the water in the lower part has been boiling twenty minutes? Continue boiling. Does the water in the top part of the double-boiler ever reach boiling-point? (b) What is the temperature of one cup of water in a small saucepan over direct heat when the first small bubbles appear on the surface? When the large bubbles come to the surface and break? When the fire is turned higher and the bubbles form and break more quickly? The vapor which comes off the surface of the water is called steam. Continue boiling the water for a few minutes; remove from the fire and measure the water. What has happened?
4. Examine oven thermometers: (a) to be set in the oven; (b) in the door of the oven.

Examine the fireless cooker, if there is one in the laboratory; if not, the class may make one, following the directions given in the Farmers' Bulletin No. 771, "Home-made Fireless Cookers and their Use", obtained by writing to the U. S. Department of Agriculture, Washington, D. C.

ROLLED OATS

3 c. boiling water

1 c. rolled oats

1 tsp. salt

Heat water to boiling-point by placing the top part of the double-boiler over direct heat; add salt; stir in the rolled oats. Cook ten minutes. Place over water in the double-boiler; cook one hour.

This may be cooked in the fireless cooker.

If the fireless cooker has a large compartment, fill the large kettle half full of boiling water, place the prepared oatmeal in a small, tightly covered kettle, and set on the wire rack placed inside the large kettle, so that the hot water is below the top of the small kettle. Close the cooker and do not open until the food is needed for the meal. Cereals may be put in the fireless cooker at night and will then be ready for breakfast in the morning.

BAKED APPLE

Wash the apple, remove the core, leaving the apple whole, and fill the cavity with sugar. Raisins or nutmeg may be used also. Put a little water in the pan to prevent burning. Bake slowly until the apple is tender when pierced with a fork.

DISHWASHING

The housekeeper sometimes considers dishwashing "drudgery", and it may be so when poor equipment is used for the task, or when she does not know how to do the work correctly. The best type of housekeeper feels that every part of her work is worth doing well, and whenever she thinks about why she is doing the task, it ceases to be drudgery. To know the reason for washing dishes helps to make the work more interesting. Dishes are washed to make them more sanitary and more pleasing to use. It is not safe or pleasant to eat from dirty or sticky dishes.

The equipment needed for washing dishes consists of plenty of clean hot water, good soap or soap powder, scouring-powder, dishpans, dish-drainer, dishcloth and mops, dish-towels, bottle and sink brushes; and there may be added a plate-scraper, a metal dishcloth, and a soap-shaker.

Dishwashers are now sometimes used, especially when there is a large number of dishes to wash.

Dishwashers are made in large sizes for hotels, restaurants, and cafeterias, but those used in the home are very different.

There are two kinds of water, hard and soft. When soap will not make good suds in the water, it is because the water is "hard." Hard water is water that has taken up lime or iron from the soil, and is the kind that usually comes from wells. Rain water is soft water, and is better for washing dishes because soap makes a good suds in it. If hard water must be used, borax, ammonia, or a strong soap powder or soap must be added.

Soap is best for use when it is very dry. It may be purchased by the dozen cakes or bars, or by the box. Some persons make "soft" soap at home by boiling scraps of fat with lye made from wood ashes.

The steps in washing dishes correctly are :

1. Remove the dishes from the table. Remove the bits of food from the plates with the rubber plate-scraper or a piece of paper. Rinse off very dirty dishes. Pile together dishes that are alike.

2. Put to soak all cooking utensils. Hot water should be put in those which have contained sugar or syrup, and cold water in those which have been used with milk, eggs, cereal, starch, or flour.

3. Pour hot water in the dishpan, make a good suds with the soap, use a clean dishcloth (not a "rag") or mop, and wash every dish carefully. Do not have the dishpan full of dirty dishes while washing. Always wash the cleanest dishes first. Dishes are sometimes washed with a spray, from an especially made nozzle, on the end of a rubber tubing which is slipped over the faucet at the sink. This method requires the use of a large amount of water, so that, while it is a sanitary plan, yet it is not possible to use such a spray when

the amount of hot water is limited or the supply of water is high in cost.

4. Place the washed dishes in a drain-pan or dish-drier, being careful not to crowd them. Crowding dishes in a pan is apt to chip them and makes it hard to scald them thoroughly. This pan or drier should be placed at the left of the pan in which the dishes are washed because this will save unnecessary motions in putting the dishes from one into the other.

5. Rinse the dishes thoroughly with boiling water, being sure that each dish has been rinsed inside and out. If the dishes have been scalded in a dish-drier, the drier may be set on the drain board and the dishes allowed to dry without wiping. The silver and glass should be washed first. They will look best when wiped and polished dry with a towel. Some persons like to dry all the dishes with a towel. This is a good method, but it takes more time than drying them in a rack or drier.

6. Scrape out and rinse off the cooking utensils. Use plenty of hot soapy water for washing them; wash thoroughly, both inside and out, scouring if necessary. Rinse with boiling water and wipe dry. Steel knives may be scoured with scouring-powder applied with a cork.

7. Wash off the drain boards and tables, and scour them with the powder and a brush if necessary. Use clean water for this. Wash out the sink and scour it with a brush and scouring-powder when the soapy water will not remove the stains.

8. Wash the dish-towels in clean soapy water, removing all spots. Rinse in clean water, shake out, and pull into shape. Hang to dry on a rack for this purpose in the kitchen, or, better still, hang outdoors in the sun. Wash and rinse the dishcloth or dish-mop.

9. Clean out the dishpan thoroughly, wipe it dry, and put it away.

LABORATORY EXERCISES

CARE OF EQUIPMENT

The Sink

1. Find the waste-pipe; the trap. Of what value is the trap?
2. Of what materials is the sink made?
3. Of what materials are the drain boards made?
4. Of what materials are the faucets made?
5. To clean the sink:



ONE-PIECE KITCHEN SINK

AN EXCELLENT TYPE

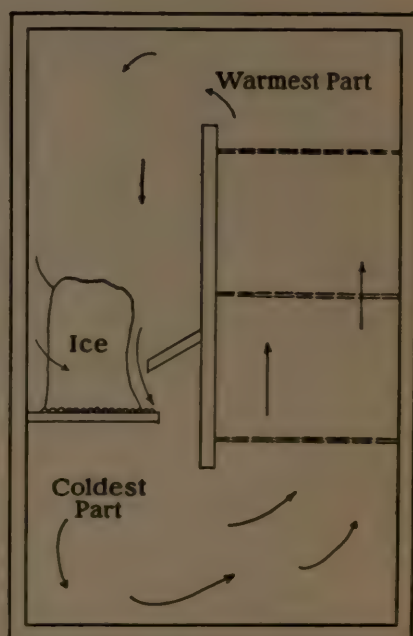
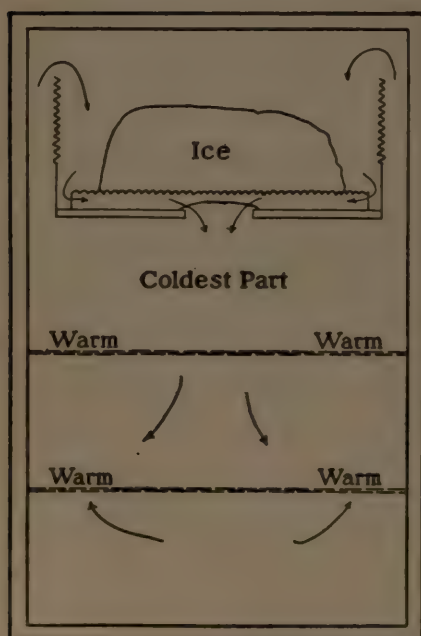
- (a) Faucets — brass may be cleaned with scouring-powder. If stained, use vinegar or lemon juice before scouring; nickel needs only washing with soap and water.
- (b) Wash drain boards and sink.

Every sink needs a sink-strainer through which dishwater or other liquids may be poured, thereby catching all refuse. Clean boiling water should be poured down the waste-pipe after very greasy water.

The Refrigerator

1. Find the waste-pipe. Into what does it drain? Can it be removed for cleaning?

2. Of what material is the lining of the refrigerator?
3. What other parts of the refrigerator may be removed when cleaning?
4. To clean the refrigerator :
 - (a) Remove immediately any food that has been spilled.
 - (b) Once a week remove all food and ice ; take out the shelves and other parts ; wash these and the inside of the ice-box with clean, warm, soapy water and rinse with clean cold water ; a solution of washing-soda may be poured down the drain-pipe. Do the work as quickly as possible.



CIRCULATION OF AIR IN TWO COMMON TYPES OF REFRIGERATORS

The Garbage-can

If no liquid material is placed in the garbage-can, the garbage may be wrapped in newspaper before placing in the can. This keeps the can in excellent condition.

1. To clean, when garbage is wrapped, wash out with clean, hot, soapy water once a week.

2. To clean, when garbage is not wrapped, scrub with a brush, using a strong washing-soda solution; rinse with boiling water; dry in sun. A dirty garbage-can has a bad smell and attracts flies. A garbage-can must always be kept tightly covered.

Have you ever seen an incinerator used? What are the trade names of incinerators widely advertised?

CRACKED WHEAT

1 c. cracked wheat 5 c. water 2 tsp. salt

Heat the water in the top part of the double-boiler over direct heat; add salt; stir in the cracked wheat. Place over boiling water and cook five hours. Serve with sugar and cream.

When gas, electricity, kerosene, or gasoline are used for fuel it is better to cook this cereal in a fireless cooker. Why?

REVIEW QUESTIONS

1. What equipment is needed for washing dishes well?
2. What are the two kinds of water used?
3. Which is the best kind to use for dishwashing? Why?
4. How should the dishes be prepared for washing? The cooking utensils?
5. State the steps in washing and drying dishes.
6. How should the dish-towels and dishcloth be cared for after dishwashing?
7. Have you ever washed dishes by this method?
8. Have you ever seen a dishwasher used?
9. What is an "iceless refrigerator" and how is it operated?

THE HOUSEKEEPING SCHEDULE

Home-making is a broader term than housekeeping. It is necessary to house, clothe, and feed a family correctly, to keep the members in the best of health; and this work is called housekeeping. When we speak of home-making, however, we include, besides housekeeping, the creating and maintaining of a home in which the

members of the family may live a happy, useful life, through having wise counsel and guidance along spiritual, educational, and social lines. Sometimes this is



PLACEMENT OF FOOD IN A REFRIGERATOR HAVING
THE ICE COMPARTMENT AT THE TOP

NOTE THAT THE MILK, CREAM, AND BUTTER ARE KEPT ON THE TOP SHELF,
WHICH IS THE COLDEST PLACE IN THE REFRIGERATOR

spoken of as "creating the atmosphere in the home", and it is usually considered woman's duty. A woman who spends all her time on housekeeping, and who never has time to counsel, guide, or help her family in their activities, is spending too much time on mere house-

keeping and devoting too little time to real home-making.

The home-maker should plan her work so that she has time for home-making. She may have to leave undone certain unnecessary tasks; she may require better equipment in order that she can do her work more rapidly; and she may need to learn time-saving methods for doing certain pieces of work. Many women do not try to shorten the hours spent on housekeeping, because they have no desire to find time for home-making or for recreation; but such women are not the best type of home-makers.

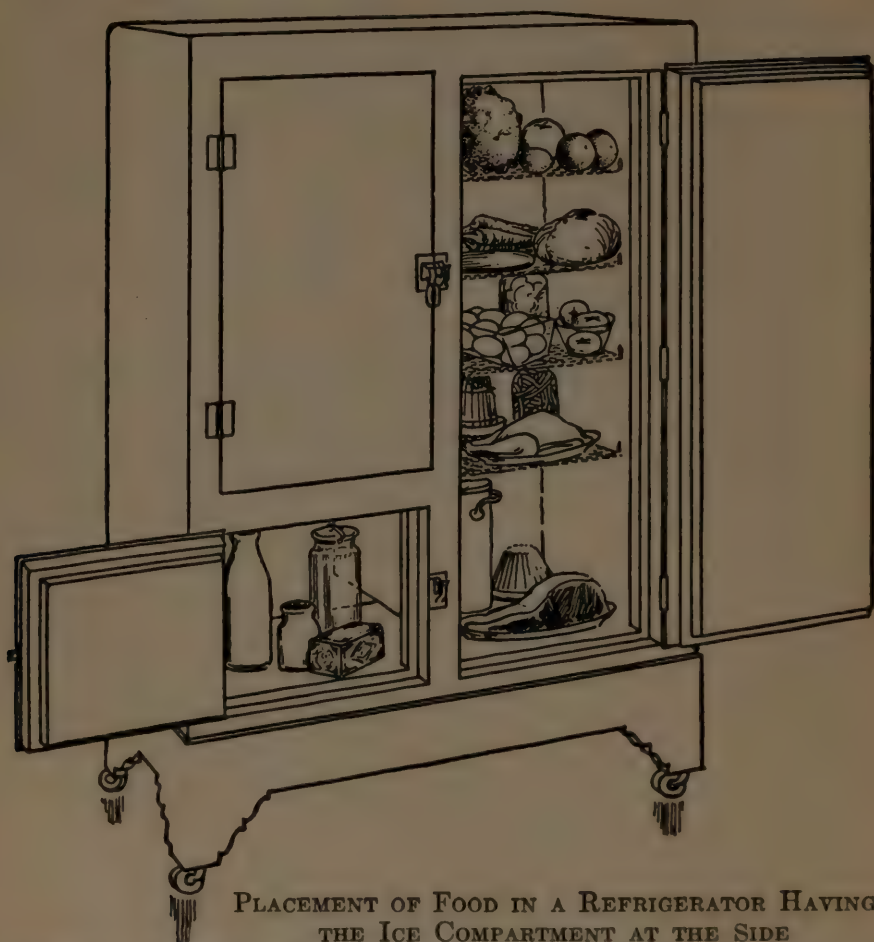
The housekeeper who does her work most easily follows a plan or schedule. Such a schedule will need to be varied often, because of interruptions of different kinds; but having the plan helps to prevent friction, saves time and energy, and makes possible some leisure for recreation and home-making.

Some work, such as making beds and planning and cooking meals, must be done every day. These are called "daily tasks." Certain other duties, such as the laundry work, come once a week and are called "weekly tasks." There is also work that does not come so frequently, such as canning fruit, and these duties are called the "occasional tasks."

When making a schedule, first plan for the daily tasks, then allow time for the weekly and occasional tasks. The arrangement of the work will depend upon the location of the home, the type of family, the standard of living, and whether household helpers are employed. The beginning housekeeper will have to experiment with her work until she finds the best arrangement of tasks.

In doing the work in the school laboratory it is well to learn to take as few steps as possible, to make

no unnecessary motions, and to proceed in an orderly way. When practicing in the home the things learned in the laboratory, you should constantly try to see



PLACEMENT OF FOOD IN A REFRIGERATOR HAVING
THE ICE COMPARTMENT AT THE SIDE

NOTE THAT THE MILK, CREAM, AND BUTTER ARE PLACED BELOW THE ICE COMPARTMENT, WHICH IS THE COLDEST PLACE IN THE REFRIGERATOR

whether it is possible to do the work by a shorter method with as good results. The hours spent on house-keeping may be shortened by (1) using good tools, well arranged; (2) using efficient methods of work, always trying new ones that seem worth while; (3) following a

schedule; (4) distinguishing between the necessary and unnecessary tasks when time is limited, and doing only those necessary for the comfort of the family.

HOME PROBLEMS AND QUESTIONS

Arrange a plan for the work to be done in your home every day. Probably your mother already has such a plan and will tell you which task she does first, second, and so forth.

What part of the work do you perform? At what time in the day do you do it? What are the weekly tasks done in your home? Do you help with any of them? How much time every week do you spend on these tasks?

Make a list of work that you consider "occasional tasks."

In what ways have you seen women waste time in housekeeping? In what ways have you seen women waste energy in housekeeping?

LABORATORY EXERCISES

CORN-MEAL MUSH

3 c. water	1 c. corn meal
1 c. milk	1½ tsp. salt

Heat the water in the top part of the double-boiler over direct heat. Mix the milk with the corn meal. When the water is boiling pour it slowly over the corn meal, stirring until the mixture is smooth; add salt. Return to top part of double-boiler and place over boiling water. Cover and cook two hours. Serve warm with cream and sugar.

SAUTÉED CORN-MEAL MUSH

Prepare corn-meal mush, following above directions. Rinse out the inside of a bread pan or mold with cold water,

being careful to wet the sides as well as the bottom. Do not wipe the inside of the pan; pack the hot corn-meal mush into the mold, being careful to make it solid. Set away to cool several hours. When cold, slice crosswise into pieces about three quarters of an inch thick. Have a frying-pan hot; in this put bacon drippings or butter, and sauté the mush until well browned on both sides. Serve with syrup or honey. This may be used as a breakfast dish and is also suitable for luncheon.

REVIEW QUESTIONS

1. Explain the difference between housekeeping and home-making.
2. Into what groups may the housekeeping tasks be divided?
3. Why is it a wise plan to have a schedule for housekeeping?
4. How should the schedule be made?
5. In what ways may a schedule be interrupted?
6. On which days in the week do you think it best to do the laundry work, the baking, the cleaning? Give reasons.

THE USE OF LEISURE TIME

The home-maker should arrange for some leisure time in her schedule. This can be done when houses are well planned and equipped and when the house-keeper uses some thought in planning her schedule. Labor-saving devices have made working in the home easier; many of the tasks formerly done at home have been taken over by factories and other outside agencies, and at the same time various activities of interest to women have developed outside of the home. In some families it is necessary for the home-maker to earn all or part of the living for the family; but in the majority of families the home-maker is not responsible for earning the money with which to operate the home.

The home-maker may have a lot of leisure time or she may have very little, depending on the number of members in the family, the type of home in which she

lives, and her methods of doing housework. Every woman should find some time during the working day when she can sit down or lie down, when she can read the newspaper; and she must also find time to talk with and be a companion to her family, to play with and read to her children. A woman is more interesting



LISTENING TO THE RADIO

A FORM OF AMUSEMENT WHICH MAY BE ENJOYED BY THE ENTIRE FAMILY

to her family when she takes time to read, to join a club, or to go to a party, because in so doing she gets her mind off her housekeeping and becomes interested in other people and in activities outside her home.

In every community there are things which need to be done by women for the improvement of the community, and the home-maker who helps in such work broadens herself through her interest in others. Every home-maker should know about the activities outside

the home which are of interest to the members of her family ; she should know something about the schools which the children attend, and about the movies, the theaters, and the clubs to which the children go. No woman can do her full duty as a home-maker unless she has some knowledge of the things which influence her family outside the home, urging improvement of conditions which are not the best.

Every woman should devote some share of her leisure time to doing things which give her pleasure, but she should be willing to devote some part to helping others in the community. Perhaps the club to which she belongs is raising money with which to equip a playground for children, or to buy a lot on which to build a library ; perhaps the church is giving a Christmas bazaar to raise money ; perhaps she has been asked to teach a Sunday-school class or to take part in an entertainment being given by her club ; and with such things she should help.

Since women have been given the right to vote in city, town, county, state, and national elections, it is the duty of every woman to do so as soon as she becomes of age. If a woman is to vote intelligently she must read the newspapers and magazines, must attend meetings where candidates for office are speaking, and must study the platforms of these candidates so that she can decide which she considers correct. Too many women do not know about the laws which govern them ; voting for the men or women who, one thinks, will make the best laws and set the best standards for government, is a desirable plan.

Girls may find useful things to do in a community, and they should devote some share of their time to such pursuits rather than spend all their leisure time in "having fun." Perhaps the Fresh Air Camp needs

more money for its work, and the girls in the neighborhood can help by selling lemonade or candy; perhaps some neighbor needs some one to play with her little child while she does her housework; or perhaps a neighbor has errands to be done. Any girl who helps her mother at home, so that her mother has more



DINNER TIME IN A BOYS AND GIRLS' CLUB CAMP

THESE CAMPS USUALLY LAST SEVERAL DAYS AND A PROGRAM OF INSTRUCTION OR FUN FILLS EVERY HOUR OF THE DAY

leisure time to take part in outside activities, is helping in community work.

Girls who belong to girls' Sewing, Baking, or Canning Clubs, to the Camp Fire Girls, to the Girl Scouts, or to any other organization teaching girls to do things that are worth while, are the girls who will develop into the most useful women, women who will be good homemakers and good citizens. •

HOME PROBLEMS AND QUESTIONS

To what organizations in the community do women belong?

What is the purpose of each organization?

What organizations for girls are there in your community?

Which of these are organized for the purpose of (1) helping to better the community; (2) training girls to be good home-makers; (3) giving pleasure to the members?

Do any of these girls' organizations have more than one purpose?

CLEANING THE KITCHEN

A kitchen must be kept very clean if it is to be a sanitary place in which to prepare food. Some cleaning needs to be done each day, while a thorough cleaning should be given whenever there seems to be a need. Cupboards should be kept neat and in order, the floor, woodwork, and walls should be cleaned when dirty, and all working surfaces and equipment should be cleaned after each using.

Cleaning walls and ceilings. When oil paint has been used, walls may be wiped with a broom, covered with a soft cloth, for frequent cleaning. Once or twice a year they should be scrubbed with a soft brush, using warm water and borax, rinsing and drying immediately. When enamel paint has been used on walls, they may be washed with warm soap suds, rinsed, and wiped dry.

Walls that are finished with water paints, such as calcimine, cannot be washed, and cannot be wiped hard enough to clean them.

Washable paper may have to be used on the kitchen walls of an old house; to clean this, wipe it with a damp

cloth moistened in warm water. Never use a very wet cloth, because the paper will be loosened if the water gets under it.

Tile walls may be washed with soap and warm water, rinsed, and wiped. Tiles used on walls are usually glazed and are easy to clean. Keen cement, sometimes used as a wainscoting on kitchen walls, should be finished with enamel paint; then it can be cleaned with warm water to which have been added a few drops of ammonia, rinsed, and wiped.

Cleaning woodwork. Woodwork is easiest to clean when finished with enamel paint, because it can then be washed with warm, soapy water, rinsed, and wiped like a dish.

Dull-finished paint may be cleaned with whiting applied with a soft cloth moistened in warm water. Wiping this off the wood makes a dust and should be done before the rest of the cleaning.

Occasionally hardwood will be used in finishing a kitchen, and this may be oiled, waxed, or varnished. Water injures these finishes, and the wood must be wiped often with soft, dry flannel or flannelette cloths to keep it free from dust. When it is necessary to clean the wood more thoroughly, it may be cleaned with the following mixture:

1 qt. boiling water
3 tbsp. boiled linseed oil
1 tbsp. turpentine

(From "Housewifery", by BALDERSTON)

Wash the wood with one cloth and wipe with a dry one.

Cleaning floors. Tiles used on floors are sometimes not finished with so high a glaze as wall tiles. To clean such a floor make a strong, hot soap suds to which washing-soda has been added, scrub the floor

with a long-handled brush instead of using a mop, rinse in clear water. A kitchen floor finished with tile is easier to clean when there is a floor drain through which the dirty water may drain away. Such a drain may also be put in a linoleum-covered floor.

Linoleum that is varnished may be cleaned with the same mixture recommended for cleaning varnished woodwork. No linoleum should be cleaned with strong soap suds, alkalies, or milk.

Hardwood floors in a kitchen may be waxed, varnished, or oiled. Waxed and varnished floors spot with water and are not desirable. Oiled, waxed, or varnished floors may be cleaned with the same mixture used for varnished woodwork.

Painted floors should be washed with clear warm water. If it is not possible to clean them in this way, a mild soap may be used in the water, rinsing the floor thoroughly. Paint is not a desirable finish for a kitchen floor. If a soft-wood floor cannot be covered with linoleum, it should be oiled in preference to painting.

Cleaning windows. Clear water, applied with either a soft cloth, paper, or chamois, may be used in cleaning slightly soiled windows, or a commercially made cleaning paste or whiting may be applied to the glass with a moist cloth, allowed to dry, and then polished with a dry cloth. For very dirty windows a few drops of ammonia or a little washing-soda may be added to the water. In cold weather the cloth used in cleaning windows may be moistened in wood alcohol instead of water.

Cleaning metals. Aluminum darkens when some foods containing alkalies are cooked in it, while with others, containing acids, it is brightened. Aluminum may be scoured with steel wool to clean it when foods have been burned on it, after which it may be washed in the usual manner. To brighten aluminum place it

in a pan of boiling water to which dilute oxalic acid has been added, about two tablespoons of acid or more if needed to one gallon of water, allowing the utensil to boil in the water until the tarnish is removed. Oxalic acid should be kept out of the reach of children, because it is a poison ; and acid may injure cloth on which it drops and should always be handled carefully.

Zinc may be used to cover a table in the kitchen, and will spot badly. To remove these spots, rub them hard with whiting moistened with water or kerosene. Or rub with hot vinegar, then wash in hot soap suds, rinse, and wipe dry.

Iron utensils may be scoured with cleaning powders, washed, and dried. If very soiled or greasy, boil in a solution of washing-soda and water, wash in hot soap suds, and dry thoroughly. When iron utensils are to be put away for some time, they should be rubbed with oil and wrapped in paper. A stove when left unused for some time should be either covered with a thick coating of stove polish or rubbed with oil to prevent rust.

Stains may be removed from porcelain by rubbing with kerosene applied with a soft cloth or paper. To remove iron-rust stains, rub the spot with dilute hydrochloric acid, which is a poison and must be put away carefully after use.

Enamelware utensils should never be scraped with a steel knife, but may be cleaned by scouring with a fine cleaning powder, washed, rinsed, and wiped dry. If necessary to scrape the pan, use a wooden spoon for the purpose.

Tin utensils should not be scraped with a steel knife. Use a wooden spoon for this purpose when necessary, scour with cleaning powder, wash in soap suds, rinse, and dry thoroughly.

The daily cleaning of the kitchen should include the

cleaning of all utensils, putting them away, the cleaning of the sink and all tables, cabinets, and shelves that have been used, the cleaning of the stove, and the sweeping or mopping of the floor.

The weekly cleaning of the kitchen should include the cleaning of the refrigerator, the cleaning of cupboards, the dusting of woodwork and walls, and a thorough cleaning of the floor.

Occasionally the woodwork and windows must be washed, and once or twice a year the walls should be thoroughly cleaned. Fresh curtains should be hung at the windows whenever there seems to be a need. Good curtains for kitchen windows are made of curtain muslin, unbleached muslin, curtain cheesecloth, or gingham. They should be finished with plain hems so that they can be easily laundered, and it is a good plan to have two pairs for each window, so that there will always be a clean pair to replace dirty ones.

LABORATORY EXERCISES

Give the laboratory its weekly cleaning.

1. Make a list of the equipment and supplies that will be needed in cleaning the kitchen. Discuss types of equipment.
2. Clean the cupboards. Put all foods in cans or jars, and label. What kind of cans or jars may be used?
3. How should the laboratory floor be cleaned? Is there a floor drain?
4. How is the woodwork finished and how should it be cleaned?
5. Clean stoves, refrigerators, and other equipment, following directions.

Clean the kitchen at home and write a report of the work, stating order of work, time required, and methods used. Discuss in class.

Discuss methods for exterminating flies from a kitchen or from around the door outside. Why are we so careful about keeping flies out of the house?

REVIEW QUESTIONS

1. How should walls finished with oil paint be cleaned?
2. How should tile walls be cleaned? Tile floors?
3. What is the best finish for woodwork in the kitchen? Why?
4. How should linoleum be cleaned?
5. How may windows be cleaned in cold weather? In warm weather?
6. Should enamelware be scraped with a knife? Why?
7. Give one method for cleaning aluminum.
8. What may cause rust stains to appear on a porcelain sink?
9. If you were going to close a house for the summer, how would you prevent iron utensils from rusting?
10. What work should the daily cleaning of the kitchen include? The weekly cleaning?
11. What kind of clothing should be worn when doing the weekly cleaning?

PROCESSES USED IN COOKING

Food is cooked: (1) to improve its appearance, (2) to improve its flavor, (3) to make some foodstuffs more digestible, and (4) to kill micro-organisms.

The first cooking that was done by primitive man was the roasting of game by the open fire and the parching of corn on hot stones, both processes requiring no cooking equipment. Before water could be used as a cooking medium, primitive woman had to begin pottery-making and basket-weaving; she had to have utensils which would hold the water. Food was first cooked in water by placing hot stones in the water with the food, not by placing the utensil containing the water over the fire. Some processes used in camp cookery are modified forms of primitive cooking.



A COOKING LABORATORY IN A RURAL SCHOOL

Cooking processes at our command to-day are :

I. Direct application of heat.

1. Broiling: cooking over a hot fire, exposing the surfaces of food to the direct heat, with short cooking of the interior of the food; example, broiled beefsteak.
2. Roasting: cooking by an open fire, exposing the surface to the direct heat, but allowing a long period of cooking for the interior of the food; example, a roast cooked under the direct gas flame in an oven.

Strictly speaking, the popular use of the word "roasting", as applied to meat cooked in an oven, is incorrect. "Roast chicken" and "roast beef" are really baked meats.

- II. Application by means of heated air.
Baking: cooking in a heated oven; example, baked bread.
- III. Application by means of heated water.
 - 1. Boiling: cooking in boiling water; example, boiled potatoes.
 - 2. Stewing or simmering: cooking in water below the boiling-point; example, beef stew.
- IV. Application by means of steam.
Steaming: (a) cooking in a utensil into which steam passes; example, steamed pudding; (b) cooking in a closed utensil surrounded by steam; example, milk heated in double-boiler.
- V. Application by means of heated fat.
 - 1. Sautéing: cooking in a small quantity of fat; example, browned potatoes.
 - 2. Frying: cooking in hot fat deep enough to cover the food; example, croquettes.
- VI. Application by means of heated metal.
Pan-broiling: cooking in a frying-pan or on a griddle without the addition of fat; example, broiled bacon.
- VII. Combination processes.
 - 1. Braising: a combination of stewing and baking; example, casserole of beef.
 - 2. Fricasseeing: a combination of sautéing and stewing; example, fricasseed chicken.

In all cooking great care must be taken to follow directions carefully. When tested recipes fail, it is usually the fault of the cook and not the fault of the recipe. Cooking becomes much more interesting when one understands why certain processes are followed, and in the laboratory work in a school course this is one of the important things to learn.

Every girl should learn to work accurately yet quickly, making only what motions are necessary, thereby saving time and energy. Sometimes there is



A MODERN FOODS LABORATORY IN THE MINNEAPOLIS PUBLIC SCHOOLS

EACH GROUP OF FOUR GIRLS HAS A SINK AND RANGE, AND EACH GROUP OF TWO GIRLS A DESK TO USE

only one "best" way to do a thing; in other cases there may be several equally good, and it is always wise to use methods that are considered the best by experts.

LABORATORY EXERCISES

FRENCH TOAST

1 c. milk

$\frac{1}{4}$ tsp. salt

1 egg

6 slices stale bread

Beat the egg slightly, add salt and milk, dip each piece of bread in the mixture. In a hot frying-pan place some fat.

When it is melted, place the bread in the frying-pan and brown on both sides. Serve with syrup.

CARAMEL SYRUP

Melt one half cup of sugar in a frying-pan, stirring until it is a brown syrup; add one half cup of boiling water; boil until the syrup is as thick as desired. Serve with the French toast.

TOAST

Cut slices of bread evenly and of even thickness. Toast in oven or on toaster until the slices are of an even brown on both sides, and until the bread is thoroughly dried and crisp. Toast may be served in this form and then it is called "dry toast." Butter may be spread on it and the toast placed in a hot oven until the butter is melted, when it is known as "buttered toast." "Cinnamon toast" is made by spreading toast with butter and sprinkling with sugar and cinnamon, mixed, using three parts of sugar to one of cinnamon. "Dipped toast" is made by quickly dipping toasted bread into hot salted water.

Which kinds would be best to serve for breakfast?

REVIEW QUESTIONS

1. Why is food cooked?
2. How was the first cooking done? (Look in the encyclopedia or elsewhere and find more about methods used in primitive times.)
3. Define roasting; baking.
4. Define broiling; frying; sautéing.
5. Define boiling; steaming; stewing.
6. Name two combination processes.
7. How may cooking be made interesting work?

SOME POINTS ABOUT FOOD

When people or animals go without food too long, they lose flesh and become very weak; finally all motion of the body ceases. The eating of proper food is very important if the body is to be kept well and strong.

Sometimes the body is likened to an engine. The engine must have fuel to make it go ; so must the body have fuel in the form of food to keep it going. The engine runs when the fuel burns. Food is burned in our bodies, but in a different way than in the engine because it burns without a flame.

Parts of the engine wear out and must be replaced ; in the same way parts of our body wear out, and the food we eat replaces and repairs the worn-out tissues and parts. An engine needs to be oiled (lubricated) to run smoothly. The body must be lubricated, and some foods are used for this purpose, as regulators of body processes. Just as the engine needs a spark to ignite the fuel, so the body must have certain protective foods for this purpose, and to promote the health of the body.

Foods have different functions in the body and are sometimes classified as follows: (1) building foods, such as milk, cheese, meat, fish, eggs, dried beans, peas, and lentils, nuts ; (2) fuel foods, such as cereals, dried beans and lentils, starchy vegetables, sugars, and fats ; (3) regulating foods, such as fruits, vegetables, milk, bran in cereals, or whole-wheat bread ; (4) protective foods, including all those containing minerals and vitamins. Some foods are used for more than one purpose in the body and may be classified under more than one group.

Another method of classifying foods is according to the foodstuffs which they contain.

There are five main classes of foodstuffs. In some foods several or all of the foodstuffs may be present.

The five groups of foodstuffs are :

1. Protein, used in the body for body-building, and to produce energy and warmth. It is present in such foods as meat, milk, cheese, cereals, and legumes.

2. Carbohydrates, used in the body to produce energy and warmth. They are found in such foods as potatoes, rice, fruits, cereals, and legumes.
3. Fat, used in the body to produce energy and warmth. It is found in large amounts in such foods as butter, cream, olive oil, and fat meat.
4. Minerals, used in the body for body-building, and found in most foods. Chemists in analyzing foods have found several kinds of minerals, but those which are most frequently lacking in the diet are iron, phosphorus, and calcium. Iron is used especially to make red corpuscles in the blood, and the best sources of iron are egg yolk, lean beef, legumes, green vegetables, especially spinach, and whole cereals. Calcium (lime) is used in building bones and teeth and other tissues, and the best source is milk; while whole grains, vegetables, fruits, and legumes contain some calcium. Phosphorus is important to the normal well-being of the child. Phosphorus is found in milk, egg yolk, legumes, whole cereals, fruits, leafy vegetables, and lean meat.
5. Water, used in the body to help in digesting the food and in carrying away waste material from the organs, thus keeping the body in a healthy condition. Water is found in practically all foods in either large or small amounts.

Besides these five foodstuffs there is found in some foods a very important class of substances called vitamins, which are necessary for health and growth. Little is known about the vitamins, but through experiments in feeding animals it has been found that vitamins are necessary and that certain foods contain

them. At present the chemist has classified four kinds of vitamins, and there are others to be discovered.

DAILY FOOD REMINDER

By MADELEINE CONNOR and ANETA BEADLE ¹

CHOOSE ONE FOOD FROM EACH GROUP EVERY DAY

GROUP I	GROUP II	GROUP III	GROUP IV	GROUP V
Vegetables and Fruits	Foods Rich in Protein	Foods Rich in Carbohydrates	Foods Rich in Fats	Foods Rich in Vitamins
Greens	Milk	Bread	Butter	Milk
Spinach	Eggs	Crackers	Cream	Butter
Lettuce	Cheese	Cake	Lard	Eggs
Cabbage	Lean meat	Rice	Salt pork	Oranges
Tomatoes	Poultry	Cereals	Bacon	Apples
Green peas	Fish	Potatoes	Fat meats	Tomatoes
String beans	Oysters	Tapioca	Salad oil	Spinach
Turnips	Dried beans	Macaroni	Chocolate	Carrots
Carrots	Dried peas	Molasses		Lettuce
Onions	Nuts	Honey		Cabbage
Apples	Cocoa (milk)	Syrup		
Oranges	Ice cream	Jelly		
Grapefruit	Custard	Preserves		
Pears		Sugar		
Berries		Dried fruits		
		Frozen ices		

The four known classes of vitamins are :

1. Vitamin A (fat soluble A), found in green vegetables, egg yolk, and butter. When children are not given enough of these foods, they are undeveloped, sickly, and have eye diseases.
2. Vitamin B (water soluble B), found in green vegetables, whole cereals, fruit juices, and milk. A lack of this vitamin causes malnutrition, a loss of appetite, and a disease called beriberi.
3. Vitamin C (water soluble C), found in orange and lemon juices, uncooked green vegetables,

¹ Published by Dept. of Agricultural Extension, Purdue University, LaFayette, Indiana.

fresh fruit, especially oranges and lemons, and tomatoes. A lack of this vitamin causes skin diseases and scurvy.

4. Vitamin D, a recently discovered vitamin, found in cod liver oil, egg yolk, spinach. This is the vitamin known to prevent rickets.

When the meals for the day are planned, foods must be selected that will furnish some of each of the food-stuffs and vitamins, so that the body shall not lack material for growth, warmth, and energy.

LABORATORY EXERCISES

MARGUERITES

12 wafers	$\frac{1}{4}$ tsp. salt
1 egg-white	$\frac{1}{4}$ tsp. vanilla
2 tbsp. powdered sugar	$\frac{1}{2}$ c. chopped raisins or nuts, or the two mixed

Beat the egg very stiff. Sugar should be pressed through a wire sieve before using. Add the other ingredients to the sugar and mix carefully with beaten egg-white. Spread on top of the wafers. Brown in a moderate oven.

SALTED ALMONDS

Use Jordan almonds if possible. Blanch by letting them stand in boiling water until the skin is loosened. Remove the skins, being careful not to break the almonds apart when handling them. Place olive oil in a frying-pan and when it is hot add the nuts; stir over fire until nuts are a light brown color; remove from fat and drain on paper. Sprinkle with salt.

Peanuts may be used instead of almonds. Peanuts do not need blanching to remove the skin.

REVIEW QUESTIONS

1. Why is it necessary to eat food?
2. Into what five groups may food be divided? Give examples of foods under each group.

3. Name the five groups of foodstuffs that foods contain.
4. Name the minerals that are of most importance to the body.
For what purposes is each used?
5. Of what value to the body are vitamins? Name foods in which they are found.
6. What kind of disease is rickets? Beriberi? Scurvy?
7. If you were burned in the laboratory, how should the burn be treated? What should you avoid doing?
8. If you cut your hand, how should the cut be treated?
9. Why is it necessary to care for cuts and burns carefully?
10. Is there a fire extinguisher in the laboratory? How is it to be used?

HEALTH RULES

Every girl wants to be attractive, and in order to be attractive she must be well and strong, and in order to be well and strong she needs to follow the rules of good health. A few good rules to follow are these:

1. Keep yourself clean.
Take a bath every day if possible.
Change your underclothes often.
Brush your teeth after each meal if possible, and always before going to bed.
Have your face and hands clean before going to the dining table to eat a meal.
Keep your hair clean by shampooing often.
Keep the finger nails clean.
2. Eat the right kind of food.
Learn to eat all varieties of food.
Study foods so that you can select a well-balanced diet.
Eat fruit every day.
Eat two or more vegetables every day.
Drink plenty of water.
Drink a pint or more of milk every day.
Eat regularly and three meals a day.
Do not "piece" between meals.

3. Go to bed early and sleep from nine to eleven hours. Keep your window open at night in the bedroom at all seasons of the year ; a sleeping porch is a fine place to sleep.
4. Have a bowel movement at a regular time every day. Do not use laxatives unless prescribed by the doctor.
Use a laxative diet and exercise if troubled with constipation.
5. Take exercise every day ; walking, swimming, and playing games furnish good exercise.
Always dress suitably for such exercise, so that the body has perfect freedom of movement.
6. Avoid all habits that are harmful.
Keep the mind clean as well as the body.
Control the temper and the tongue.

Many children are underweight for their age and for their height. Tables have been made which show the correct weight for a child when the age and height in inches are known. Because a child is underweight for his height may not indicate that he is in poor health, for underweight is not the only standard by which we can



THIS IS ALICE BURKHART, AGE 15, OF AUDUBON COUNTY, IOWA, AND GEORGE CUSKADEN, AGE 14, OF SHELBY COUNTY, INDIANA, WHO WERE CHOSEN AS AMERICA'S HEALTHIEST GIRL AND BOY IN THE NATIONAL HEALTH CONTEST CONDUCTED BY THE 'BOYS' AND GIRLS' CLUB DEPARTMENT AT THE INTERNATIONAL LIVESTOCK SHOW IN CHICAGO

judge; yet we use the Height and Weight Table because it is a definite standard to follow. If the weight of a child is more than ten per cent below the standard, he or she should be examined by a physician to see whether there is any cause, such as bad tonsils or other physical defects, since such causes must be remedied before the child will gain in weight. After physical defects have been remedied the following suggestions should be followed :

1. Drink plenty of milk each day; at least three glasses should be taken. In some schools mid-morning and mid-afternoon lunches, consisting of milk and crackers or bread with butter, are served to undernourished children.
2. Eat eggs and butter, plenty of cereals and potato; eat concentrated foods so that a sufficient amount of food can be consumed.
3. Eat at least one green vegetable or one serving of fruit every day. Fruits and vegetables are sometimes called "regulating foods" because they are the foods which contain laxative material, minerals, and vitamins.
4. Take plenty of rest each day. Go to bed very early and also rest during the day. The rest period during the day may be after the mid-morning and mid-afternoon lunches.
5. Follow a regular schedule each day, eating, going to bed, resting at regular times.
6. Avoid excitement, which is not good for people who want to gain weight. Underweight boys and girls should not go to the movies or to other entertainments at night; they should never get into crowds.
7. Take some exercise out of doors. Violent exercise is not good for underweight boys and girls;

neither should they take too much exercise; rest is more important than exercise when one is underweight.

If a boy or girl is twenty per cent or more above the weight indicated for the height, it is a wise plan to try to reduce in weight. Probably more food is being eaten than is necessary and too many foods that contain large amounts of starch and sugar are being eaten. It would be a good plan to avoid eating potatoes, rice, dried beans and peas, macaroni, and bread in large quantities; to eat little or no candy, and to use less sugar on cereals, fruits, and other foods. An overweight boy or girl should eat plenty of green vegetables and fresh fruits.

It is a good plan to watch one's weight, since this is a standard by which to judge one's physical condition.

LABORATORY EXERCISES

Weigh and measure each member of the class.

Make a list of the foods you ate yesterday; remember to include any foods eaten between meals. Did you have foods from each of the groups shown in the table headed "Daily Food Reminder"?

In what other ways besides using it to drink did you have milk? Do you think you had three glasses during the day?

How can you learn to eat foods that you do not like? Why is it a wise plan to learn to eat all kinds of foods?

Keep a list of the foods you eat for one week. Are you eating the right foods? Have you tried eating any new foods? If you are underweight, what foods, besides milk, should you eat plentifully?

Is a bath taken only to get the skin clean? Ask the physiology teacher.

Why should the underclothes be changed often? Ask the clothing teacher.

58 ELEMENTARY HOME ECONOMICS

Tables prepared by Bird T. Baldwin, Ph. D., and Thomas D. Wood, M. D.

WEIGHT-HEIGHT-AGE TABLE FOR BOYS OF SCHOOL AGE

HEIGHT (in.)	AVERAGE WEIGHT FOR HEIGHT (lbs.)	5 YEARS	6 YEARS	7 YEARS	8 YEARS	9 YEARS	10 YEARS	11 YEARS	12 YEARS	13 YEARS	14 YEARS	15 YEARS	16 YEARS	17 YEARS	18 YEARS	19 YEARS	HEIGHT (in.)
38	34	34	34*														38
39	35	35	35														39
40	36	36	36*														40
41	38	38	38*	38*													41
42	39	39	39*	39*	39*												42
43	41	41	41*	41*	41*												43
44	44	44	44	44	44*												44
45	46	46	46	46	46*	46*											45
46	48	47*	48	48	48	48*											46
47	50	49*	50	50	50	50*	50*										47
48	53		52	53	53	53	53*										48
49	55		55	55	55	55	55	55*									49
50	58		57*	58	58	58	58	58*	58*								50
51	61			61	61	61	61	61	61*								51
52	64			63	64	64	64	64	64	64*							52
53	68			66*	67	67	67	67	68	68*							53
54	71				70	70	70	70	71	71	72*						54
55	74				72*	72	73	73	74	74	74*						55
56	78				75*	76	77	77	77	78	78	80*					56
57	82					79*	80	81	81	82	83	83*					57
58	85					83*	84	84	85	85	86	87					58
59	89						87	88	89	89	90	90	90				59
60	94						91*	92	92	93	94	95	96				60
61	99							95	96	97	99	100	103	106*			61
62	104							100*	101	102	103	104	107	111	116*		62
63	111							105*	106	107	108	110	113	118	123	127*	63
64	117								109	111	113	115	117	121	126	130*	64
65	123								114*	117	118	120	122	127	131	134	65
66	129									119	122	125	128	132	136	139	66
67	133									124*	128	130	134	136	139	142	67
68	139										134	134	137	141	143	147	68
69	144										137	139	143	146	149	152	69
70	147										143	144	145	148	151	155	70
71	152										148*	150	151	152	154	159	71
72	157											153	155	156	158	163	72
73	163											157*	160	162	164	167	73
74	169											160*	164	168	170	171	74

Age — Years	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Average height (inches)	Short	43	45	47	49	51	53	54	56	58	60	62	64	65
	Medium	46	48	50	52	54	56	58	60	63	65	67	68	69
	Tall	49	51	53	55	57	59	61	64	67	70	72	72	73
Average annual gain (lbs.)	Short	3	4	5	5	5	4	8	9	11	14	13	7	3
	Medium	4	5	6	6	6	7	9	11	15	11	8	4	3
	Tall	5	7	7	7	7	8	12	16	11	9	7	5	4

Age is taken at the nearest birthday, height at the nearest inch, and weight at the nearest pound. A child is considered 6 years old at any time between 5½ and 6½ years.

WEIGHT-HEIGHT-AGE TABLE FOR GIRLS OF SCHOOL AGE

HEIGHT (in.)	AVERAGE WEIGHT FOR HEIGHT (lbs.)	5 YEARS	6 YEARS	7 YEARS	8 YEARS	9 YEARS	10 YEARS	11 YEARS	12 YEARS	13 YEARS	14 YEARS	15 YEARS	16 YEARS	17 YEARS	18 YEARS	HEIGHT (in.)
38	33	33	33													38
39	34	34	34													39
40	36	36	36	36*												40
41	37	37	37	37*												41
42	39	39	39	39*												42
43	41	41	41	41*												43
44	42	42	42	42*												44
45	45	45	45	45	45*											45
46	47	47*	47	47	48	48*										46
47	50	49*	50	50	50	50	50*									47
48	52		52	52	52	52	53*	53*								48
49	55		54	54	55	55	56	56*								49
50	58		56*	56	57	58	59	61	62*							50
51	61			59	60	61	61	63	65							51
52	64			63*	64	64	64	65	67							52
53	68			66*	67	67	68	68	69	71*						53
54	71				69	70	70	71	71	73*						54
55	75				72*	74	74	74	75	77	78*					55
56	79					76	78	78	79	81	83*					56
57	84					80*	82	82	82	84	88	92*				57
58	89						84	86	86	88	93	96*	101*			58
59	95						87	90	90	92	96	100	103*	104*		59
60	101						91*	95	95	97	101	105	108	109	111*	60
61	108							99	100	101	105	108	112	113	116	61
62	114							104*	105	106	109	113	115	117	118	62
63	118								110	110	112	116	117	119	120	63
64	121								114*	115	117	119	120	122	123	64
65	125								118*	120	121	122	123	125	126	65
66	129									124	124	125	128	129	130	66
67	133									128*	130	131	133	133	135	67
68	138									131*	133	135	136	138	138	68
69	142										135*	137*	138*	140*	142*	69
70	144										136*	138*	140*	142*	144*	70
71	145										138*	140*	142*	144*	145*	71

Age—Years		6	7	8	9	10	11	12	13	14	15	16	17	18
Average height (inches)	Short	43	45	47	49	50	52	54	57	59	60	61	61	61
	Medium	45	47	50	52	54	56	58	60	62	63	64	64	64
	Tall	47	50	53	55	57	59	62	64	66	66	67	67	67
Average annual gain (lbs.)	Short	4	4	4	5	6	6	10	13	10	7	2	1	
	Medium	5	5	6	7	8	10	13	10	6	4	3	1	
	Tall	6	8	8	9	11	13	9	8	4	4	1	1	

The figures not starred represent exact averages in round numbers.

The starred figures represent smoothed or interpolated values.

The following percentage of net weight has been added for clothing (shoes, coats, and sweaters are not included) :

For Boys :

For weights from 35 to 63 pounds — 3.5 per cent of net weight is added.

For weights 64 pounds and over — 4 per cent of net weight is added.

For Girls :

For weights from 35 to 65 pounds — 3 per cent of net weight is added.

For weights from 66 to 82 pounds — 2.5 per cent of net weight is added.

For weights from 83 pounds and over — 2 per cent of net weight is added.

Make a set of health rules for yourself to follow for a week, indicating at what time each thing shall be done. Should these be varied at different seasons? Why?

Why do we consider good health so necessary? How does poor health handicap a boy or girl, or an adult?

By what methods is the health of school children protected by the school officials, the health authorities, other agencies?

Perhaps you can organize a Health Club for the girls. Directions may be secured by writing for Health Education Bulletin No. 4, entitled "Teaching Health", from the Bureau of Education, Department of the Interior, Washington, D. C.

THE BREAKFAST PLAN

There are many types of breakfast that may be served, and every family will have its own particular plan for this meal.

The foods generally used for breakfast are fruit, cereals, bread and beverages, with sometimes egg, meat, or vegetable dishes.

The menu should vary with (1) the time of year, (2) the type of work which the members of the family are doing, (3) the kind of meal eaten the night before, and (4) the size, weight, and age of the members of the family.

In the summer it is well to avoid eating much meat, and meat can easily be omitted from breakfast.

It is well, also, to eat less heat-producing food in summer than in winter, because then the body does not need so much heat to keep it warm.

When too much food is eaten, a good deal is lost because some foodstuffs cannot be stored in the body and must, therefore, be carried off from the body in the form of waste material.

If a man is doing hard work out of doors, he needs more food than does the man who sits all day at his

desk in an office, because the man in the office does not use so much muscular energy in doing his work as the man who works with his muscles.

If dinner is the meal served in the evening, the family does not wish nor need much for breakfast the following morning. If a light supper is the last meal of the day, then more food should be served for breakfast.

The members of the family differ in size, weight, and age, and the food eaten should vary in amount and kind. The baby and small child should not eat the same food, nor so much, as the man in the family. How then shall the meal be planned to suit each member of the family? It is a good plan to make a menu that contains enough food of the right kind for the man, and to have in that menu some food that will suit the small child.

The following are some general suggestions for planning the breakfast :

1. Breakfast consisting of fruit, bread, and beverage ; suitable for the man who works in an office and the woman who does light work. For the small child, cereal and milk would have to be added and tea or coffee omitted.

2. Breakfast consisting of fruit, cereal, bread, and beverage ; suitable for the man who does a good deal of walking but works indoors, and for the woman who does ordinary housework, office work, or teaching. With cocoa or milk as the beverage, this would be good for the small child, the schoolgirl or schoolboy, and the college student.

3. Breakfast consisting of fruit, eggs, bread, and a beverage, instead of No. 2. Milk and cereal, however, should be added for the child.

4. Breakfast of fruit, cereal, a meat or egg dish, bread, and a beverage ; suitable for the man doing hard

manual work out of doors, or for women doing hard manual work. The meat should be omitted in the child's diet, and milk or cocoa used as the beverage.

5. Breakfast consisting of fruit, cereal, meat or egg dish, a vegetable, bread, and a beverage. This breakfast is a very heavy meal and should be eaten only by



THREE TYPES OF COFFEE POTS

FROM LEFT TO RIGHT: DRIP COFFEE-POT, COFFEE PERCOLATOR, AND POT FOR BOILED COFFEE

a man doing hard manual labor out of doors in cold weather. Many families eating this type of breakfast do so because they like it and not because they need the food in the daily diet. In many cases they would be in better health if less food were eaten.

HOME PROBLEMS AND QUESTIONS

Are these good breakfast plans? Why?

1. For a hot summer morning: stewed fruit, sausage, buckwheat cakes, coffee.
2. For a small child: coffee, cereal, meat dish, and hot biscuit.
3. For a man doing hard manual labor out of doors: fruit, coffee, toast.

4. For the schoolgirl: fruit, cereal, cocoa, and toast. Make two good plans for your breakfast at this season of the year.

Make two good plans for the breakfast of a small child at this season of the year.

Bring these plans to class for discussion.

LABORATORY EXERCISES

BEVERAGES

Experiment:

1. Examine coffee beans, finely ground, and pulverized coffee. What is the price of each?

2. Examine samples of tea, both green and black; compare the color and shape of the leaves. Are there bits of stem or other refuse present? Compare prices.

COFFEE

Coffee may be made in several ways

1. Boiled coffee, made with egg.

1 heaping tbsp. of ground coffee

1 c. water

$\frac{1}{2}$ egg-shell or $\frac{1}{4}$ of an egg-white

Mix together coffee and egg, using a little of the water; add the rest of the water. Boil gently for three to five minutes. Let stand in warm place for five minutes. Serve. The egg is used to settle the grounds.

2. Boiled coffee without egg.

Use the same proportions as in No. 1. Place the ground coffee in a cheesecloth bag, being careful to pack it very loosely; tie securely.

3. Percolated coffee.

Made in a percolator pot, constructed so that the ground coffee is placed in a container at the top. The water boils up through a tube to the ground coffee, and then drips back into the bottom of the pot.

There are many kinds of percolators sold.

4. Drip coffee.

Like coffee made in percolator, except that the coffee-pot is arranged so that water must drip through the ground coffee from the top.

	TEA	
1 tsp. tea		1 c. water

Heat fresh water to boiling-point. Pour it over the tea, let stand in a warm place three minutes. Pour off tea into hot teapot or cups. Serve at once.

Tea should never be boiled, nor the water allowed to stand on the tea leaves longer than three minutes, because the longer it stands the more tannic acid is present.

BEVERAGES

Beverages are made by combining liquids and flavoring materials.

There are many kinds of beverages, examples of which are coffee, tea, cocoa, lemonade, and grape juice.

Water is the liquid used in making most beverages. In addition to the water taken in beverages one should drink a great deal of pure water, because the composition of the body is two thirds water. One may go without food for weeks, but it is not possible to live very long without water. Most persons, because of the taste, like to drink hard water in preference to soft water. Hard water comes from wells and deep springs, and has collected certain mineral substances from the soil over or through which it has come.

When the soil is full of filth, the water flowing through it will be impure and may be the cause of typhoid fever, malaria, or other diseases. Impure water may be clear and sparkling in appearance, and the only way to be certain of its purity is to know about the source from which it comes. In the city, the water supply is

so carefully watched that the water coming into the house is usually pure. If a well is so situated that the water coming into it passes through soil into which a barnyard or an outside toilet or a pig-pen is drained, it is likely to be dangerous to health.

When there is the slightest doubt about the purity of water, it should be boiled before drinking.

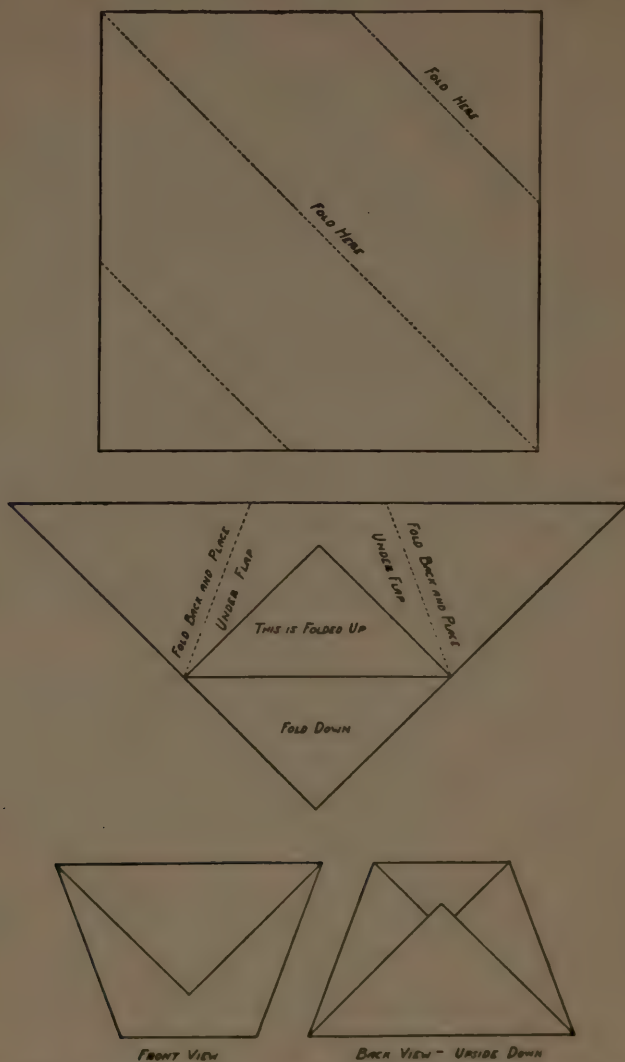
Boiled water has a flat taste because some of the air in it has been driven off by boiling. The taste may be improved by pouring the water back and forth between two pitchers, thus forcing air into it again. Water may be taken during meals, providing it is not used to "wash down" the food. If food is chewed thoroughly and eaten slowly, and if water is never taken while the mouth is full, then the food is digested better when some liquid is taken with the meal. It is never a wise plan to drink large quantities of ice-water with meals, since this may cause poor digestion of food, because the water chills the stomach.

Ice is frozen water, and is just as pure as the water from which it was made. Ice from a pond, lake, or river should never be dissolved in drinking water or other beverages. To cool drinking water with such ice, place the water in a jar or bottle and set against the ice until cold.

Artificial ice is made by freezing water in tanks, the freezing temperature being secured by the evaporation of ammonia. This ice should be much purer than ice from ponds, lakes, and rivers.

At school every student should use his or her own drinking-cup unless there is a bubbling fountain. It is dangerous to drink out of a cup that has been used by other persons, because if any one has a disease, such as diphtheria, sore throat, or tuberculosis, it may be given to others who use the same cup.

Paper cups are very convenient to use at school when there are no drinking fountains. Such cups are



WHEN PAPER DRINKING CUPS ARE NOT PROVIDED, ONE CAN MAKE A CUP FROM A SHEET OF CLEAN WHITE PAPER, FOLDING IT WITH CLEAN HANDS ON TOP OF A CLEAN DESK. (From Health Education Bulletin No. 17, Department of the Interior; Bureau of Education, Washington, D. C.)

often provided from a container hanging on the wall by the faucet or pump from which the water is obtained.

HOME PROBLEMS AND QUESTIONS

From what sources does the drinking water that you use at home and at school come? If there is any doubt about the purity of the water, where may it be sent for analysis?

Is the ice used in your home natural or artificial ice? What does 1000 pounds cost? Is the ice cheaper when you buy a 1000-pound book of tickets or when you buy a 500-pound book of tickets?

LABORATORY EXERCISES

COCOA

1. Examine cocoa nibs, pulverized cocoa.
2. Pour one half cup of boiling water over two teaspoons of cocoa. Observe the liquid.
3. Mix together one half cup of cold water and two teaspoons of cocoa; boil five minutes. Compare this with No. 2. What has happened?

COCOA

$\frac{1}{4}$ c. cocoa	1 c. water
$\frac{1}{4}$ c. sugar	3 c. milk
$\frac{1}{8}$ tsp. salt	Vanilla

Mix cocoa, sugar, salt, and water. Boil ten minutes. Heat milk in a double-boiler; add to this the cocoa paste. Cook twenty minutes. Add vanilla.

An attractive way to serve cocoa is to place a spoonful of whipped cream on top of each cup.

ICED COCOA

Make the cocoa as described above. When cool, set in refrigerator to chill. When it is time to serve the cocoa, beat it with a Dover egg beater and pour into the glasses in which it is to be served. On top of each glassful put a spoonful of whipped cream, and grate a little sweet chocolate over the top of cream or sprinkle with nutmeg.

REVIEW QUESTIONS

1. What is a beverage?
2. Name some commonly used beverages.
3. Why is it important to drink pure water?
4. How should impure water be treated when it must be used for drinking?
5. From what source does the water supply come that is used in your school?
6. What is ice?
7. When may ice be put into beverages?
8. Where does the ice come from that is used in your neighborhood? What is the price of one hundred pounds?

BEVERAGES (*Continued*)

Coffee, tea, cocoa, and chocolate are the beverages generally used for breakfast. Coffee and tea should be used only by grown persons; children may take cocoa. Because many older people drink coffee and tea, it would not be possible to prepare a meal completely without knowing how to prepare these beverages.

The coffee bean or berry is the seed of a fruit resembling a cherry, and is produced on an evergreen tree that grows in nearly all tropical countries. Most of our coffee comes from South America, mainly from Brazil. In preparing coffee for market the cherry-like fruit is allowed to ferment so that the pulp surrounding the seeds may become soft and can be removed. These seeds contain two "beans" which grow with their flat sides together and are inclosed in a husk. This husk has to be dried and then removed, when the beans fall apart. The coffee beans are then shipped to the country where they are to be sold. The beans are roasted to make them brittle and to develop flavor, and are sold to the housekeeper in this form, or as "ground coffee."

Coffee loses its flavor and aroma very quickly after

being ground if it is left in an open container, and for this reason some prefer to buy the roasted coffee beans and grind them only as needed. Ground coffee should be sold in air-tight cans, but if sent from the store in paper sacks should be emptied into air-tight cans at once.

Coffee contains substances that are often harmful for grown persons and are never good for children; one is caffeine, a substance that stimulates the nerves; another is tannic acid, which may disturb digestion.

Most of the tea we use comes from China, Japan, Ceylon, and India. Tea is made from the leaves of a plant called *Thea*. The plant sends out four sets of new shoots a year, and the leaves from these shoots are gathered and cured for tea.

There are two types of tea, black and green tea. Green tea is made by drying the tea leaves at a high temperature, which causes them to keep their green color and to curl up. Black tea is made by allowing the leaves to wither and ferment, which causes them to turn dark before being dried. This process gives black tea a flavor different from that of green tea.

Tea contains a substance called "theine" which acts as a stimulant to the nerves. There is also present tannic acid, which is bad for the digestion.

Cocoa is produced from the pod of the cocoa tree which grows in tropical countries. The pod is shaped somewhat like a cucumber, and inside is a large number of seeds surrounded by pulp. The seeds are removed from the pulp and, after being allowed to ferment a few days, are roasted. The husk is then removed and the seed is divided into two parts which are called "cocoa nibs."

When cocoa nibs are ground and pressed into a cake, the cake is known as chocolate. This chocolate is

rather bitter in taste and is used in cookery. When sugar is added to the cake it is called sweet chocolate.

Cocoa is made from chocolate by removing a large part of the fat. It is then ground and sold in bulk or in tin containers. The fat that is removed from the chocolate is used for cocoa butter. Cocoa has a good deal of food value, and when served as a beverage in which milk is used it adds food value to a meal.

Children should not take all of their milk in the form of cocoa, since cocoa contains a stimulant something like the caffeine found in coffee and tea, although milder and in smaller amounts. It may be harmful, however, if taken three times a day.

Cereal coffees contain no coffee, but when properly made may be a pleasing substitute, because they provide a warm drink without the stimulants found in coffee. They do not have the coffee flavor, and many people do not like them on this account.

"Minute coffee" and "minute cocoa" are pulverized products to which hot water is added to make the beverages. They are convenient to use on camping trips, but are expensive and are not practical for general use.

LABORATORY EXERCISES

BEVERAGES FOR INVALIDS

EGG COCOA

1 egg-white	2 tsp. cocoa
2 tsp. sugar	$\frac{3}{4}$ c. milk
Few grains salt	

Beat white of egg until stiff; add slowly sugar, salt, and cocoa. Add one half of egg mixture to the milk and pour into glass in which it is to be served. Put remaining egg on top.

HOT LEMONADE

Make same as cold lemonade, but use boiling water instead of cold water. Serve hot.

EGG LEMONADE

1 egg	2 tbsp. lemon juice
1 tbsp. powdered sugar	2 tbsp. crushed ice
$\frac{1}{4}$ c. cold water	

Beat the egg slightly with a Dover egg beater; add the sugar, water, and lemon juice. Mix thoroughly, then strain through cheesecloth over crushed ice.

Have you seen other beverages served to invalids? Perhaps you can bring recipes to class.

REVIEW QUESTIONS

1. Describe the preparation of coffee for market.
2. How should coffee be cared for after it is purchased?
3. From what countries does most of the tea used in this country come?
4. Describe the preparation of tea for market.
5. Why are tea and coffee harmful to many people?
6. Should children drink tea or coffee?
7. What is cocoa? Chocolate? Cocoa nibs?

THE HOSTESS AND HER DUTIES

The woman or girl who entertains guests is called the hostess; the man is the host. To be a good hostess is a great accomplishment. The good hostess plans in detail the arrangements for her party, is always polite and thoughtful of her guests, and in every way tries to give them pleasure.

In making the arrangements for a party there are several things to consider:

1. The list of guests to be invited to the party. For receptions or other entertainments where a large number of guests are to be invited, one may ask as many of one's friends as one can

entertain without having the house or rooms crowded. When a small group of friends is to be entertained — as at a dinner, a luncheon, or a sewing party, where all the guests must talk together — it is a wise plan to invite only those guests who will enjoy each other.



TABLE FOR SERVING THE REFRESHMENTS AT A TEA OR RECEPTION

TEA AND COFFEE WILL BE POURED BY THE LADIES SEATED AT THE ENDS OF THE TABLE AND EVERYTHING WILL BE PASSED TO THE GUESTS BY THOSE ASSISTING IN THE DINING ROOM

If there is a guest of honor, one for whom the party is given, the friends invited should be those who would be interesting to her.

2. After the list of guests is made, the invitations must be given. There are two classes of invitations: (1) formal and (2) informal. A formal invitation is always written, printed, or en-

graved, and is for such entertainments as receptions or formal dinners. The invitation is written in the third person, as follows :

Mrs. John B. Smith
At Home
Wednesday, June the Seventh
Four to Six O'clock
250 Sterritt Place

Perhaps in the lower left-hand corner will be placed the name of the guest of honor, or a mention of the form of entertainment — as, for instance, “Musical”, when the entertainment is to be a program of music. The guest responds to such an invitation in this way :

Mrs. James L. Brown accepts with pleasure the kind invitation of Mrs. John B. Smith for Wednesday, the seventh of June, from four to six o'clock.

There are many variations in the methods of wording both invitations and acceptances, but all formal invitations are written in the third person and answered in the same manner.

An informal invitation may be given verbally in person or over the telephone, or an informal note may be written, such as :

MY DEAR MRS. BROWN :

I am inviting a few friends to my house on Wednesday, June the seventh, at four o'clock, to meet my guest, Mrs. Jones, and I should be so happy to have you come and bring your sewing and spend the afternoon with us.

Hoping that we may have the pleasure of your company, I am

Yours sincerely,

MARTHA S. SMITH

June the third
250 Sterritt Place

No matter what the form of invitation, the hostess's name and address, the date and time of the party, and possibly the form of entertainment, should be included.



A TEA PARTY FOR DOLLY

THIS LITTLE GIRL HAS SEEN HER MOTHER SERVE TEA TO GUESTS AND IS FOLLOWING HER EXAMPLE

3. After the invitations are sent, the hostess must plan the details of the entertainment, being careful to consider every item, planning just how and when and by whom each thing shall be done. A party is never a success unless planned so that things move smoothly, so that the hostess need not be troubled by having things "go wrong" while the guests are present. It takes practice to learn how best to work out the plans for a party.
4. The hostess must look after the comfort of her guests, making sure that each has the best time it is possible for her to have. The good hostess never considers her own pleasure, but thinks only of the pleasure of the guest, always giving the best of everything to those she is entertaining. The hostess meets her guests upon their entrance to the room where she is receiving. She sees that they are properly

introduced to strangers and starts the conversation after the introduction, but is careful never to talk too much and never to talk about things that interest only herself. She watches constantly to see that the guests are well looked after, and when the party is over she stands where it will be convenient for the guests to speak to her when leaving.

To be a good conversationalist is an art; every girl should begin early to learn to talk about things other than herself and her own interests, to refrain from talking constantly, to be a "good listener", to talk in a pleasant tone of voice, never too loud, to enunciate each word carefully, and to pronounce and use words correctly. Through reading, traveling, and listening to the conversation of others, one acquires interesting information that may be used in conversation; when one has such topics to discuss, there is no temptation to gossip about other people.

A girl should be polite to every one, including her friends, elderly people, and the members of her own family. The kind thing is usually the polite thing to do. Social customs, manners, have developed because people must be considerate of one another if they are to live happily together. "Etiquette" is the term applied to these social customs, and it is a subject on which much has been written of help to one who does not know the accepted social forms.

LABORATORY EXERCISES

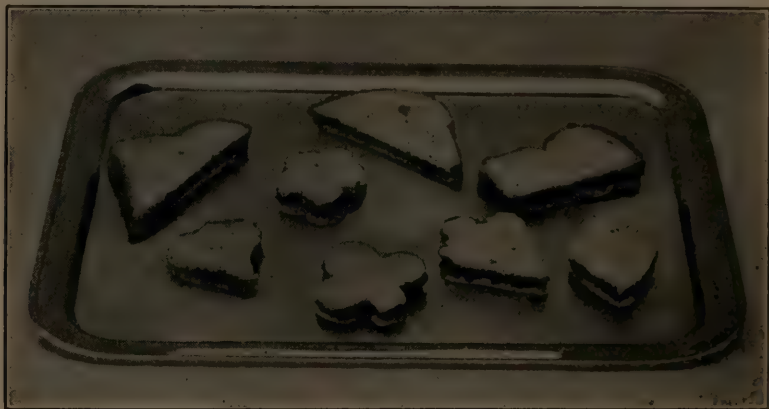
A RECEPTION FOR MOTHERS

Invite the mothers of the girls to the school for the laboratory period. The members of the class should receive and entertain them. Refreshments of tea, coffee, or cocoa,

sandwiches, marguerites, and salted nuts may be prepared and served by the girls.

SANDWICHES

Cut the bread into very thin slices; cream the butter by mashing and beating with a fork. Butter the slices of bread, add jelly if desired, lay the slices together evenly. Sandwiches are often cut into fancy shapes, such as round,



SANDWICHES MADE IN DIFFERENT SHAPES

CRUSTS ARE OFTEN CUT FROM THE EDGES OF SANDWICHES WHEN THEY ARE TO BE SERVED AT A PARTY

triangular, rectangular, or square. The crust may be removed, if desired. The bread scraps may be served for a bread pudding. Wrap the sandwiches in a dry cloth, then in a slightly damp cloth until ready to serve.

FRUIT

Fruit is very valuable in the diet and, if possible, should be included in the menu every day. Fresh fruit can be purchased in the market at all seasons of the year.

It is desirable to eat fresh fruit every day, preferably for breakfast. Canned and dried fruits may be used when the fresh fruit is too expensive or not available.

Fruit eaten first at breakfast serves as an appetizer and makes one want to eat the rest of the meal.

Fruits are composed largely of water, but contain sugar, which is one form of carbohydrate, very small amounts of protein and fat, and mineral matter. All fresh fruits contain vitamins; oranges and lemons contain large amounts of vitamins. Orange juice is now given to children, beginning when they are three or four months old, because this furnishes vitamins that are necessary to the development of the growing child.

The mineral matter in fruit, including iron, phosphorus, lime, magnesia, and potash, is very valuable to the body.

The botanist says that fruits are the seed-bearing parts of the plant, but such foods as tomatoes and cucumbers, which really are fruits, we class as vegetables.

When fruits are considered as to their food value they are sometimes classified as (1) flavor fruits, containing a very large amount of water and very small amounts of the foodstuffs, and (2) food fruits, containing less water and larger amounts of the foodstuffs. Examples of flavor fruits are strawberries and watermelons. Examples of food fruits are bananas, dried figs, and dates.

Most persons like fresh fruit, but it does not agree with everyone. Cooked fruit can often be eaten when the raw fruit cannot, because the cooking softens the fruit and kills bacteria that may be present. Neither green fruit nor overripe fruit should be eaten.

Fruits are least expensive when purchased in season, that is, when they are being produced on the farms and in the gardens of the community. When fruits have to be shipped long distances they must be sold at higher prices.

One can usually get better fresh fruit by going to the market and selecting it than by ordering it by telephone. It should be looked over carefully for blemishes or decayed spots; fruit in poor condition is sometimes sold at a lower price than fruit in good condition, but the waste in preparation is such that the cost is really no lower than for the better fruits. Many fruits are sold by the pound, others by the measure, and some by the dozen. Fruits may cost less when purchased in larger quantities, and those that will keep well should be purchased in this way; for example, apples by the pound are much more expensive than by the bushel or by the barrel. When fruits are to be purchased for canning, it is a wise plan to buy in quantity; and when there is a good place in which to store such fruit as apples or pears for winter use, they too should be purchased in quantity. Dried fruits sold in packages containing several pounds are cheaper than when sold in pound lots.

Fruit should be cleaned carefully before being used as food. Even when the skin of the fruit is to be removed, it should be washed carefully. One handles both the skin and the fruit at the time of peeling. Berries and similar fruits should be washed thoroughly before being eaten or cooked.

Fresh fruits are usually preferred when served cold, and should be chilled by placing them in the refrigerator for several hours before serving. When fruits are to be eaten with the fingers, finger bowls are sometimes used in serving the meal. Finger bowls should be about one third full of water and are usually set on a plate or tray made for the purpose. They should be placed at the left of the fruit plate, or above and to the left of the fruit plate, and should be removed from the table when the fruit plate is removed.

LABORATORY EXERCISES

FRUIT FOR BREAKFAST

GRAPEFRUIT

Wash grapefruit and cut crosswise into halves. Loosen the thick white skin by cutting each section of the fruit from the skin. Use scissors to cut the skin loose from the rind.



HALF A GRAPEFRUIT, PREPARED FOR BREAKFAST

ON SPECIAL OCCASIONS A PAPER, LINEN, OR LACE DOILY MAY BE PLACED UNDER THE GRAPEFRUIT TO MAKE THE SERVICE MORE ATTRACTIVE

Cut the core loose from the rind and remove white skin with core. Fill center of grapefruit with powdered sugar if desired. Serve on fruit-plate.

Have you ever eaten grapefruit prepared in any other way?

APPLE SAUCE

1 medium-sized apple	.	$\frac{1}{8}$ tsp. cinnamon or nutmeg
$\frac{1}{4}$ c. water		(if desired)
		$\frac{1}{2}$ to 1 tbsp. sugar

Wash and pare the apple. Cut it into quarters and remove the core. Place in saucepan, add the water, cover tightly. Boil gently until apples are tender when pierced

with a fork. Add sugar and nutmeg or cinnamon. Cook until sugar is melted.

Other recipes for using apples may be brought from home by members of the class.

REVIEW QUESTIONS

1. Name the fruits that can be used for breakfast.
2. Which of these grow in your locality?
3. What are the foodstuffs found in fruits?
4. What is meant by purchasing "in season"?
5. What fruits are "in season" at the present time?
6. How much are apples per pound? How many pounds are in a peck and in a bushel of apples?
7. How does the price per bushel compare with the price paid when apples are bought by the pound?
8. What is the price of grapefruit? What does one serving cost?

MARKETING

The good housekeeper does her marketing with intelligent care, thereby saving money, yet giving her family adequate meals. Every housekeeper should set aside a definite amount of money to be used for food each year, dividing it into the amounts to be spent each month. The amount spent for food varies with the size of the income and the standard of living. Suggested proportions have been given for the amount of money to be spent for food when living on a given income, but these proportions are not adapted to all classes of people living under various conditions. Authorities have agreed, however, that every dollar spent for food should be used in this way:

One part, more or less, for vegetables and fruits.

One part, more or less, for milk and cheese.

One part, more or less, for meats, fish, eggs, and so forth.

One part, or more, for bread and cereals.

One part, or less, for sugar, fat, tea, coffee, chocolate, flavoring.

METHOD OF KEEPING THE FOOD ACCOUNT

(Using the five divisions suggested)

AUGUST, 1926

VEGETABLES AND FRUITS			MILK AND CHEESE		MEAT, FISH, EGGS, ETC.		BREAD AND CEREALS		SUGAR, FAT, TEA, COFFEE, CHOCOLATE, ETC.	
Aug. 1	1 doz. green corn	30	2 qt. milk	28	5 lbs. rib roast	1	1 box oatmeal	25	1 25-lb. sack sugar	175
	1 box blackberries	30	1 lb. cheese	45	1 doz. eggs		1 50-lb. sack flour	270	1 lb. coffee	50
	3 lbs. peaches	25							1 lb. butter	47
Aug. 2			2 qt. milk	28						
Aug. 3			2 qt. milk	28						
Aug. 4	1 bush. peaches	350			1 doz. eggs	50	1 box cake flour	39	1 cake chocolate	30
	1 pk. apples	65			10 lbs. bacon	250	1 box wheatena	25	1 lb. butter	47
	6 sweet peppers	25			2 lbs. round steak	45			3 lbs. cocoa	85
	1 pk. onions	50								
	1 pk. potatoes	75								
	2 lbs. green beans	25								

MONTHLY TOTALS SPENT FOR FOOD

MONTH	VEGETABLES AND FRUITS		MILK AND CHEESE		MEAT, FISH, EGGS, ETC.		BREAD AND CEREALS		SUGAR, FAT, TEA, COFFEE, CHOCOLATE ETC.	
January	8	25	7	75	7	50	8	60	6	25
February	7	85	8	10	7	80	7	95	7	00
March										
April										
May										
June										
July										
August										
September										
October										
November										
December										
Totals										

A PAGE FROM THE ACCOUNT BOOK ON WHICH THE MONTHLY TOTALS FOR FOOD ARE KEPT, SHOWING THE METHOD FOR RULING THE PAGE

In order to know how much money is being spent for food the housekeeper should keep a food account. This may be kept on a sheet of paper ruled as illustrated on page 81. Put down the items each day. At the end of the month add up each column and see whether one fifth of the money spent has been used for each division. Rule a second sheet as indicated above, and put on this the totals for each month; at the end of the year add these totals, and it will be possible to tell just how much money has been used for food and in what proportions.

When one lives in the country and many foods come from the farm, the cost must be determined by finding what the market price would be, and weighing or measuring the food to determine the amount used, until one becomes familiar enough with the weights and

measures to be able to estimate by looking at the foods the amounts used.

To become a good marketer requires practice. The following suggestions will be helpful to the girl who is doing her first marketing.

1. If there are several groceries, meat markets, and bakeries in your locality, it is a good plan to visit all of them to determine whether it would be best to buy all foods from one store or whether certain foods may be purchased more reasonably at other stores. It is also desirable to know how foods are kept and handled, and whether they are in a sanitary condition when they reach your home. Patronize only reliable merchants.
2. It is a wise plan to make a list of the foods needed before going to the store. To do this, one would have to plan the meals at least for the day, and preferably for the week, before doing the marketing. Estimate the amount of money to be spent for these foods.
3. The housekeeper may save money by buying foods that are in season. Fresh vegetables, such as cauliflower, are higher in price in winter than in summer. Cabbage could be substituted for the cauliflower and would cost less.
4. Buy staple foods in quantity whenever there is a good place to store such foods. Some fresh fruits and vegetables may be purchased in quantity when they can be kept where they will not spoil until used.
5. Foods bought in packages cost more than those bought in bulk. Why?
6. Read the labels on canned goods and, after using the products, determine which brands you

- consider the best to buy. Ask for these products by the brand name. Canned goods should be bought by the case when a quantity will be used. The size of cans is indicated by number — No. 2 and No. 3 cans being those generally used in the home.
7. Ask for foods by weight or measure rather than by the "quarter's worth" or "dime's worth" or by saying "a twenty-cent can of corn."
 8. Foods "on sale" may be of inferior quality or damaged, and when the price is much below the prevailing price in other stores it is well to determine why before buying such foods. A grocer may be overstocked, however, and may wish to reduce the amount of food on hand; he will then sell food of good quality at a reduced price. Or a merchant may be "selling out" and will dispose of his stock at a reduced price, in order to complete the sale quickly. In such a case the foods may be very good in quality.
 9. Mail-order houses often sell good foods at a lower price than the price at the local store, because they combine a wholesale and a retail business in one company, because they do not have to pay for the delivery of the merchandise, and because, having so many customers, they require a smaller profit on each article sold than the small stores must make in order to pay expenses.
 10. If foods have been ordered by telephone, always check them, when delivered, with the list used in ordering. When foods are not in good condition, they should be returned to the store, and a reliable merchant will be glad to replace them with foods of good quality.

A wise housekeeper always keeps on hand canned products and other foods which may be used in getting a meal when unexpected guests arrive. These foods may be kept on a shelf alone, called the "emergency shelf." As soon as any of these foods are used, the supply should be replenished.

HOME PROBLEMS AND QUESTIONS

How does the business of the wholesale grocer differ from that of the retail grocer? Are there any wholesale firms selling foods in your locality?

Visit local groceries, meat markets, and bakeries, and make a list of the most desirable features about each store. Make a list of the features which you would consider essential if a grocery is to be (1) a sanitary place, (2) an agreeable place in which to buy.

Make a list of the features desirable in a sanitary meat market.

How many No. 2 cans are in a case of canned goods? How many No. 3 cans?

What foods would be called "staple" foods?

What foods would be suitable for the emergency shelf?

Make a list of green vegetables that can be purchased economically in winter.

Which fresh fruits are most economical to buy in winter? Why?

Ask your mother to allow you to keep the food account for one week. Has the money spent for food been proportioned according to the standard set in the text? If not, what group of foods has been purchased in too small amounts? Perhaps your mother can tell you why this happened.

MILK

Milk is one of our most important foods. When we drink milk we should remember that we are taking a real food and not merely something to take the place of water. When enough milk is used, some other food can be left out of the diet. Milk is a perfect food for



DAIRY COWS ON CLOVER PASTURE
A SOURCE OF GOOD MILK

infants or young animals and is a good food for grown persons.

When the chemist divides milk into its parts, he finds the following foodstuffs: protein, carbohydrates, fat, mineral matter, and water.

The mineral matter in milk is especially important, because it contains more calcium (lime) than any other food. Since bones and teeth are largely made of lime, it is particularly necessary that boys and girls have plenty while growing, and it is also important for older people.

Milk is also one of the best foods to supply us with vitamins, which are so essential for growth.

The protein in one glassful of milk is equal to the protein contained in one large egg, or in one and one third ounces of beef. Therefore when we use enough milk in a meal we do not need meat. The milk may be used in custards, escalloped and creamed dishes, or it may be used to drink.

Every boy and girl should use a great deal of milk — some say a pint and a half (three glasses) for every child over two years of age, while others say that one quart per day is not too much for the child under six years of age.

Clean milk is the only safe milk. Dirty milk may contain disease germs that cause typhoid fever, tuberculosis, or other diseases. Clean milk comes from clean cows kept in clean barns. The milk must be handled by persons with clean hands and clean clothes, and it must be placed in clean pails, bottles, or pans.

If milk is purchased from a store or dairy wagon it should be in bottles, tightly covered. The bottles must be kept in a cool place where there are no flies. If a bottle of milk is put in the refrigerator it must always be tightly covered. It should be placed in a part of the refrigerator removed from meats and vegetables or fruits, because it absorbs odors very readily. Always wipe the top of the bottle with a clean, damp cloth before pouring the milk from the bottle; always wipe the outside of the milk bottle before putting it in the refrigerator.

When the milk stands, the fat separates and comes to the top. This fat is then called *cream*. The milk remaining when the cream is removed is *skim milk*. The milk without its cream removed is *whole milk*.

Skim milk contains protein and the milk sugar (car-

bohydrate) which whole milk contains, and may be used for soups, sauces, or in other cookery.

Butter is made from cream. It is one of the easily digested fats and contains a considerable quantity of Vitamin A.

Butter substitutes are products resembling butter in appearance, but made by combining other fats than



INTERIOR OF A MODERN DAIRY BARN

CLEAN MILK COMES FROM CLEAN COWS, KEPT IN CLEAN BARNs

that from milk with milk or cream; these are sold at lower prices than butter. Oleomargarine and nut margarine are examples of butter substitutes. Butter is best for children; adults may use butter substitutes, and butter substitutes may be used in cookery to take the place of butter in recipes.

There are several kinds of milk that can be purchased. Milk that is heated to the boiling-point,

212° F., and cooled before it is sold, is called *sterilized milk*. The boiling changes the flavor but kills harmful bacteria that may have been in the milk. *Pasteurized milk* is milk which has been heated and kept at a temperature of 140° to 145° F. for twenty to thirty minutes, and then cooled quickly. This process kills bacteria that may cause disease. *Certified milk* is milk that is guaranteed by the producer to be especially clean and pure.

At the grocer's we buy *condensed* or *evaporated milk* in tin cans. This is milk that has had most of the water taken out of it and afterwards has been canned. This is useful to take on camping trips or journeys where fresh milk cannot be obtained. *Powdered milk* may also be found in the stores. This is a dry powder and must have water added before it is used.

Milk sours through the growth of certain bacteria (harmless) in the milk; the bacteria feed upon the milk sugar in the milk, and lactic acid is formed. The thick part of the sour milk is called the "curd" and the thin watery part is the "whey." Sour milk is used in cookery preferably before the curd and whey separate. Cottage cheese is made from the curd of sour milk; clabber is the solid sour milk before it separates, and may be cooled and eaten with sugar, and sometimes with sweet or sour cream.

Buttermilk is the liquid left after butter has been made and removed from the cream, and is of about the same food value as skim milk.

Fortunate is the child who lives on a farm and can have all the milk desired. Milk, however, must be regarded as a very necessary food and should be used by every family, whether in town or country. It is poor economy to reduce the amount of milk purchased. Some other food could be better spared.

LABORATORY EXERCISES

MILK

WHITE SAUCE

White sauce is made by combining a liquid, a fat, and a thickening agent. Cream sauces and gravies are examples of white sauce. White sauce is of different thicknesses, according to its use. The following are the general proportions for white sauce:

No. 1 White Sauce or Thin White Sauce

1 c. liquid	1 tbsp. fat	1 tbsp. flour
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Used for cream soups and certain sauces.

No. 2 White Sauce or Medium White Sauce

1 c. liquid	1 tbsp. fat	2 tbsp. flour
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Used for vegetables, gravies and sauces.

No. 3 White Sauce or Thick White Sauce

1 c. liquid	2 tbsp. fat	3 tbsp. flour
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Used for thick sauces, creamed oysters.

No. 4 White Sauce or Very Thick White Sauce

1 c. liquid	3 tbsp. fat	4 tbsp. flour
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Used for croquettes.

There are three ways of combining the ingredients in making white sauces:

Method No. 1. Heat part of the milk in double-boiler; mix the remaining milk with the flour, and add gradually to the heated milk, stirring thoroughly; add the fat just before removing from the fire. Cook twenty to thirty minutes in the double-boiler, stirring occasionally.

Method No. 2. Heat milk in double-boiler; mix into a paste the fat and the flour; add to the heated milk, stirring until no lumps are present; cook twenty to thirty minutes.

Method No. 3. This method is often used in making

gravies. Heat the fat slowly ; add the flour, and stir until a smooth paste is formed ; add the milk, stirring constantly to prevent lumping. Cook six to ten minutes.

CREAM TOAST

1 tbsp. butter	1 c. milk or cream
1 tbsp. flour	$\frac{1}{4}$ tsp. salt
4 slices bread	

Make white sauce from the first four ingredients. While it is cooking make the toast, being careful not to burn the bread. Dip each piece in the white sauce, place in a warm dish and pour on the remaining white sauce. Serve in warmed dishes.

TOMATO TOAST

$\frac{2}{3}$ c. strained tomato juice	1 tbsp. butter
1 tbsp. flour	1 c. milk
Salt and pepper to taste	

Make a white sauce of the milk, flour, and butter. Heat the tomato juice. Pour the tomato juice *very* slowly into the hot white sauce, stirring all the time, so that the acid in the tomato will not curdle the milk.

Pour the hot mixture over thin slices of buttered toast. For what meal could this dish be served? What foods could be served with it?

REVIEW QUESTIONS

1. What is clean milk?
2. Why is it necessary to use clean milk?
3. What is Pasteurized milk? Sterilized milk? Certified milk?
4. Can either of these be purchased in your neighborhood? Where?
5. What is the price of milk per quart? What is the price of one pint of cream? Of one half pint?
6. Can skim milk be purchased from your dairy man? Compare the price of this with the price of whole milk.
7. In what ways may skim milk be used?
8. How should milk be cared for in the home?

9. What is condensed milk?

10. Does your grocer sell condensed milk? What does it cost per can? How much does the can contain?

11. Is milk a valuable food? Why?

12. For what food may milk be substituted?

13. How is butter made?

14. What butter substitutes are sold in the local stores?

15. How should butter substitutes be used?

16. How may buttermilk be used in cookery?

CEREALS

Cereals are derived from the seeds or grain of certain cultivated grasses. The most commonly used are corn, oats, wheat, barley, rye, buckwheat, and rice. From these are made many different kinds of flour, meal, and breakfast foods. Cereals furnish nearly one third of our food in this country.

Cereals are very valuable as food because they contain all the foodstuffs. Carbohydrates are found in the largest amount. Carbohydrates in food are found mainly in three forms: (1) starch, (2) sugar, and (3) cellulose. Starch and cellulose are the forms found in cereals.

The grain is made up of cells, the walls of which are of cellulose, and inside is the starch. Cellulose is not easily digested and is of practically no value, but it is useful to the body by furnishing "bulk" which causes the food to pass through the digestive system in a better and easier way.

Bran is the outer covering of such grains as wheat, oats, barley, or rye. Bran is largely cellulose, but in the bran layers is most of the mineral matter found in the cereals. Many of our breakfast cereals have the bran removed; in such cereals as cracked wheat or cracked oats the bran is left.

Cereals also contain protein and vitamins.

When the chemist divides a cereal into its parts he finds 65 to 75 per cent of carbohydrates, 10 to 12 per cent of protein, 2 to 8 per cent of fat, about 2 per cent of mineral matter and 10 to 12 per cent of water.

Cereals used for breakfast foods may be purchased at the stores in sealed packages, or in bulk by the pound. Those in packages are usually the cleaner but are more expensive.

We can buy ready prepared breakfast foods, such as cornflakes, puffed cereals, and shredded wheat. There are some cereals that are partially cooked, such as rolled oats, which have been steamed to soften the grains, then rolled, and which must be cooked again before eating; and there are other cereals that are not cooked at all in preparation for the market, such as cracked oats or wheat, and these are prepared for eating by long, slow cooking.

The prepared breakfast foods cost more per pound than those which must be cooked. A serving of a cooked breakfast food, such as oatmeal, furnishes more food value than a serving of a prepared breakfast food, such as puffed wheat, because the oatmeal weighs more.

Cereals do not keep well and it is not wise to buy them in large quantities, even though the price may be lower when bought in that way.

Cereals are cooked for three reasons: (1) to soften the cellulose, (2) to cause the starch grains to swell and burst, and (3) to make the taste better. In cooking cereals a fireless cooker may be used.

When cereals are cooked on the stove, always use a double-boiler. This is to prevent burning.

Left-over cereal, such as oatmeal, cream of wheat, or wheatena, may be packed in molds, and, when cold, removed from the molds and served with sugar and cream; or the cold cereal may be molded in a bread

pan, cut in slices, and sautéed in fat ; cold cereals may also be used in croquettes.

HOME PROBLEMS AND QUESTIONS

Make a list of the cereals grown in this region. Which are the most common?

Make a list of the prepared cereals that can be purchased at the grocery : (a) those ready to eat ; (b) those partially cooked.

Make a list of the cereals to be cooked.

What is the cost of rolled oats by the pound when sold in bulk ? What is the cost per box for rolled oats ? Read the label on the box to find what amount of oats the box contains. Compare the price of that in the box and that in bulk.

Should one eat a large amount of sugar on cereals ? Why ? In what other ways than with sugar may cereals be sweetened ?

Which cereals do you like best for breakfast ? Are these the ones that furnish the greatest food value ?

If you are overweight, which cereals would be best for you to eat ? If you are underweight ?

LABORATORY EXERCISES

BREAKFAST CEREALS

CREAM OF WHEAT WITH DATES

2 tbsp. cream of wheat	$\frac{1}{6}$ tsp. salt
1 $\frac{1}{4}$ c. water	4 to 6 dates

Heat water to boiling-point, add salt, stir in cream of wheat gradually. Cook about thirty minutes in double-boiler. When the cooking is about half done, add the dates, which have been cut into fine pieces.

PREPARED CEREALS

Place cereal on pan and heat in oven until crisp. Serve with fruit if desired. Milk or cream may be used with a cereal. Sometimes hot milk is poured over shredded wheat before serving.

Make a breakfast menu for yourself, in which each of the following breakfast cereals may be used, to make a well-balanced and pleasing breakfast: (1) oatmeal, (2) cream of wheat with dates, and (3) shredded wheat biscuit.

What other cooked breakfast foods have you eaten besides those that have been cooked in the laboratory?

REVIEW QUESTIONS

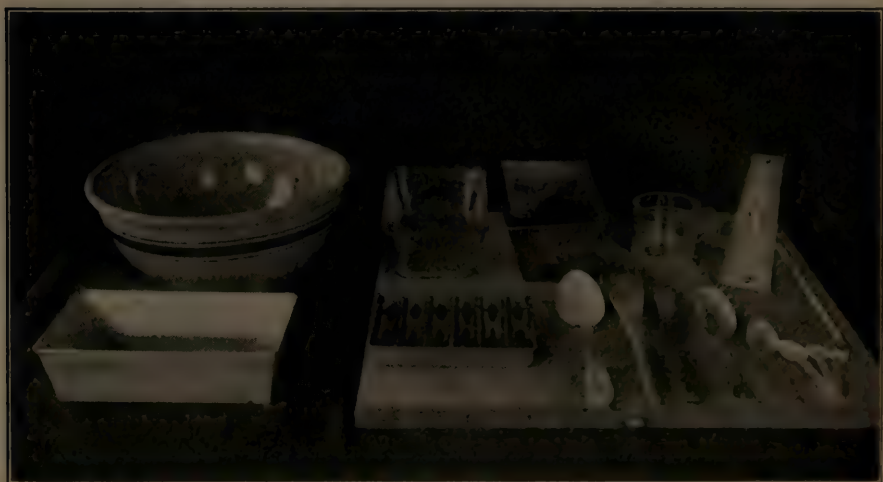
1. Why are cereals valuable as food?
2. Name breakfast foods containing the bran from the cereal.
3. Into what three groups may we classify breakfast foods made from cereals.
4. When you are underweight, why is it better to eat oatmeal or cracked wheat often for breakfast than to eat puffed wheat or corn flakes always?
5. Why are cereals cooked?
6. How may left-over breakfast cereals be used?

BREAD

In any menu we usually like bread in some form. Bread is another way of serving cereals, because all the flours and meals from which bread is made are prepared from cereals. The cereal used most commonly in making bread is wheat. The product made from wheat and used in bread is called flour. There are many different brands of wheat flour and these will make different kinds of bread. The flours are not alike because they are made from different kinds of wheat and by different processes. A great deal of our flour comes from the Northwestern States and is made from wheat sown in the spring and called hard-wheat flour. Wheat

grown in the Central States is usually sown in the fall and the flour made from it is called soft-wheat flour. Both can be used in bread-making.

Flour that is to be used for bread-making should be creamy in color, rather gritty in feel, and if pressed in the hand should fall apart when released. Flour may be purchased by the barrel, by the sack, or by the pound. It is cheaper when purchased in quantity, if



EQUIPMENT NEEDED FOR BREAD-MAKING

the housekeeper has a suitable place for storing a large amount. Flour must be kept in a clean dry place and in a well-covered container. A metal-lined container is preferable to one of wood because it can be more thoroughly cleaned.

Whole-wheat flour and Graham flour are types of wheat flour used for bread-making; these contain bran (the outer covering of the wheat grain) and other parts of the grain not found in white flour. These are valuable in the diet on account of the mineral matter and vitamins they contain, and, because they contain bran, are useful for their laxative properties. Whole

wheat and Graham bread are good foods for any one troubled with constipation.

The material in flour that is important in bread-making is the gluten, which is a form of protein that when mixed with water forms an elastic mass. It is the gluten that makes it possible to stretch and pull the dough without its breaking apart.

Yeast is one of the important materials used when light bread is made from wheat flour. It is the yeast that makes the dough rise and become light. Yeast, as it is used in bread, is made up of a large number of tiny plants, each too small to be seen by the naked eye. Under a powerful microscope they appear as little cell-like plants. When the plants are put into bread dough they find food material and

moisture in the flour and other ingredients, and begin to grow and produce more cells. During this growing process a gas is formed which is called carbon dioxide. This gas stretches the gluten in the bread dough and causes the whole mass to rise. Alcohol, also, is produced during the growth of the yeast plant, but both the gas and the alcohol pass out of the bread during baking.

The yeast plant, in order to grow properly, must have (1) food and (2) moisture, both found in the dough, and (3) warmth, obtained by keeping the dough in a



A BREAD-MIXER

USEFUL WHEN SEVERAL LOAVES OF
BREAD ARE TO BE MADE AT ONE TIME

warm place. The yeast plant is like all other plants in that it will be killed if it gets too hot. A cold temperature does not kill the plants, but they will not grow when cold.

Yeast may be purchased at the store in dry yeast cakes or in the form of compressed yeast. In the dry yeast the plants are mixed with meal, then dried, and wrapped for sale. The compressed yeast cake contains growing plants with enough food and moisture to permit growth for a few days. It cannot be kept long, however, and usually is purchased fresh for each baking.

Liquid yeast is a third form in which yeast is kept, and is sometimes called "beer yeast" or "starter." It contains the active growing plants and, in a cool place, can be kept for several days.

LABORATORY EXERCISES

Experiment: Make a stiff dough by mixing 4 tbsp. bread flour with 1 tbsp. water. Knead it well; let stand 30 minutes. Then knead it in the palm of one hand, under running water or in bowls of water, changing the water until it is no longer milky in appearance. What you have left is the gluten. Try stretching it. Shape it into a ball and put on baking sheet or pan and place in hot oven. What happens?

YEAST BREAD

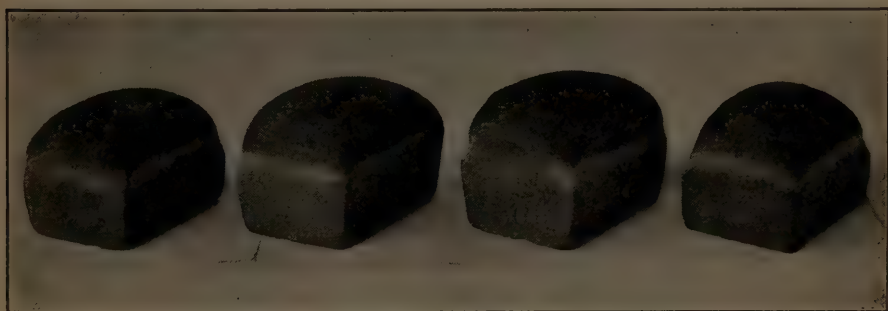
Bread is made in two ways: (1) by the "long process", in which a sponge is used, and this sponge is allowed to stand, usually overnight, before being made into dough, and (2) by the "short process", in which no sponge is used, but the dough is made at first. The second is the more modern method, and is popular because it requires much less time for making bread than the "long process." "Short-process" bread is most easily made by using compressed yeast.

RECIPE FOR ONE LOAF OF BREAD

1 c. liquid (milk or water, or the two mixed)	
1 tsp. salt	1 tbsp. fat
1 tbsp. sugar	3 c. flour (about)
1 compressed yeast cake	

The large amount of yeast is used in order that the bread may be made and baked in two or three hours. At home, one cake of yeast would do for three or four loaves of bread.

Place the salt, sugar, and fat in a mixing-bowl. Scald the liquid and pour over the ingredients in the mixing-bowl.



GOOD LOAVES OF BREAD

Let stand until lukewarm. While this is cooling, place the yeast in 2 tbsp. of lukewarm water to soften. Add this to the lukewarm mixture in the bowl. Stir thoroughly. Sift flour into the liquid mixture gradually, stirring thoroughly. As soon as it is possible to knead the dough without having it stick to the fingers, place it on a floured bread-board and knead until it is smooth in appearance and elastic to touch. Clean out the mixing-bowl, grease, place dough in bowl. Cover with a lid. Set mixing-bowl in a dishpan half full of lukewarm water; put in a warm, but not hot, place. If bread is made in hot weather the mixing-bowl need not be placed in the water. Bread dough kept at 80° to 86° F. rises best. Use a thermometer to test the dough. Experienced bread-makers can tell by the "feel" of the dough whether it is warm enough.

When the dough has doubled in size, knead again, adding no flour except what is needed on the board to keep the dough

from sticking. Shape into a loaf and place in a well greased bread-pan. Grease the pan by using a piece of oil paper on which has been placed a little fat, or use a brush made for the purpose. Cover the pan and set where the proper temperature for rising may be maintained. When the loaf is doubled in size, place in an oven heated to 400° or 425° F. Gradually lower the temperature to 380° F. Use an oven thermometer. The loaves should be turned around in the oven once or twice during the first few minutes of baking, so that the shape of the loaf will be good. No brown crust should form on the bread until the first ten or fifteen minutes. Bake one hour.

Remove bread from pan and place it, uncovered, on a bread-rack to cool; or place loaf against pan in such a way that no side touches a flat surface.

OTHER WORK WITH BREAD

While bread is baking, score it, using the score card given in the next section.

A lesson in kneading bread might be given, using one large portion of dough which may be prepared before the class assembles.

If there is a bread-mixer in the equipment, examine it. Perhaps there will be dough set to rise in it before the class begins, so that the kneading may be done by the class.

REVIEW QUESTIONS

1. What kinds of wheat flour are used for bread-making?
2. State the necessary qualities of white flour that is good to use for bread-making.
3. How is bread flour purchased? What is the price of one pound of flour in bulk? Of a 25-lb. sack? Of a 50-lb. sack?
4. What is gluten? How is it valuable in bread-making?
5. What is yeast?
6. In what forms do we have yeast for bread-making?
7. How does yeast make dough rise?
8. Would yeast grow if placed in water alone? Why?
9. What effect does a hot temperature have on yeast? A cold temperature? When does this have much to do with bread-making?
10. From what section of the country does a great deal of flour come?

BREAD (*Continued*)

Bread should be thoroughly baked, because during the baking process the yeast plant and other bacteria present are killed, and other changes also take place that make the bread more easily digested. It is better to bake one loaf in a pan instead of two or three or four loaves together in a larger pan.



BREAD PANS, BREAD-STICK PANS AND BAKING SHEET

Bread that is well baked is an even golden brown all over; and when the bread is twenty-four hours old the crumb from the middle of the loaf will crumble and not form "dough-balls" when rubbed between the fingers. Bread that has just been baked is hard to digest because it forms a pasty mass in the mouth and is not chewed so thoroughly as it should be. It is better for use after standing twenty-four hours.

Bread should be kept in a metal container rather than in a wooden or earthenware jar. The container should be washed and scalded often with boiling water, and may be placed in the sun to dry thoroughly. Scalding water and sunshine will kill any bacteria that may be in the box which would cause the bread to spoil. Bread should not be wrapped in a cloth while warm because this is apt to spoil the flavor.

A great deal of baker's bread is now used, and in almost any locality good bread of this kind can be obtained. The large modern bakeries make good clean bread. When we buy bread from the store it is well to know whence it comes and to find out if it has been properly made and cared for. A great deal of bread is



A BREAD-JUDGING TEAM

THEY ARE JUDGING BREAD WITH A SCORE CARD. NOTE THE EMBLEM OF THE FOUR H CLUB ON THE HEADBAND

wrapped in paper before it leaves the bakery and this is usually the cleanest bread that can be bought, as all dust, flies, dirty hands, and dirty clothes have been kept away from it.

A slice of baker's bread usually does not contain so much food value as a slice of home-made bread of the same size, because it does not weigh so much and therefore contains less flour and probably less milk and fat.

A girl should know how to make good bread, even though the bread used in her home is bought from the

baker. The United States government considers bread-making such an important thing for a girl to know that the Department of Agriculture has organized bread clubs in all sections of the country. The girls who belong to these clubs learn to make bread by doing it many times and then entering a loaf to be judged in a contest with other girls. To decide just how well she has learned to do the work, the judge uses the Standard Score Card for Bread that has been adopted by the United States Department of Agriculture.

SCORE CARD ¹

1. General appearance :	
Shape	5
Smoothness of crust	5
Depth and evenness of color	5
2. Lightness	10
3. Crust :	
Thickness	5
Quality (crispness and elasticity)	5
4. Crumb :	
Color	10
Texture (size and uniformity of cells, thickness of cell walls)	15
Elasticity (softness and springiness)	10
5. Flavor (taste and odor)	30
Total	100

One of the favorite ways of preparing light bread for breakfast is to make it into toast. Toast is easier to digest than white bread, when it is properly made, because there are certain changes that take place in the starch during the toasting. In making dry toast, the slice should be dried out and evenly browned on both sides.

¹ From Farmers' Bulletin 1136, "Baking in the Home", Superintendent of Documents, Washington, D. C.

All clean scraps of bread and toast should be dried and made into crumbs ; these can be used in many ways.

Waffles, batter cakes, muffins, pop-overs, and biscuits may be substituted for yeast bread in the breakfast plan.

In some parts of the United States hot breads are used at every meal, and most of the breads used are quick breads. Quick breads are made to rise in a different way from yeast breads. We will study in another lesson the methods used.

LABORATORY EXERCISES

ROLLS AND BATTER CAKES

Experiment: Mix 1 tbsp. flour, 1 tbsp. sugar, $\frac{3}{4}$ cake compressed yeast, 5 tbsp. cold water to a smooth paste. Divide into three parts, place each in a tumbler and label 1, 2, and 3.

(a) Fill No. 1 with boiling water, place glass in bowl of boiling water, let stand in a hot place fifteen minutes.

(b) Half fill No. 2 with lukewarm water, let it stand fifteen minutes in a temperature of 80° to 90° F.

(c) Fill No. 3 with cold water, place it in a bowl of cracked ice, or outside the window if the weather is freezing, for fifteen minutes.

Observe the foam on top of each glass — the more foam the more active is the yeast.

Which has produced the most foam? What causes the foam? What does this teach about the temperature for bread-making?

(d) Place $\frac{1}{4}$ yeast cake in 2 tbsp. water. Let it stand fifteen minutes. Has any foam come to the top? Why?

(e) Let No. 3 stand in a temperature of 80° to 90° F. for one hour. Has any change occurred in contents of glass? Why?

(f) Remove No. 1 from bowl of boiling water, let it stand in a lukewarm place for one hour. Has any change occurred in contents of glass? Why?

PARKER HOUSE ROLLS

- | | |
|--------------------|---|
| 1 c. scalded milk | $\frac{1}{2}$ tsp. salt |
| 1 tbsp. butter | $\frac{1}{2}$ yeast cake dissolved in $\frac{1}{4}$ c. lukewarm water |
| 1 tbsp. sugar | |
| 3 c. flour (about) | |

Pour scalded milk over salt, butter, and sugar. When mixture is lukewarm, add yeast and one half the flour. Beat until smooth; cover, and let rise. Stir in flour until dough is stiff enough to handle. Knead until smooth and elastic.



LIGHT ROLLS, CLOVER-LEAF ROLLS, PARKER HOUSE ROLLS, AND BREADSTICKS, ALL MADE FROM BREAD DOUGH

Let rise again, then turn out on bread-board, roll and pat the mixture until it is one third inch in thickness. Cut with biscuit-cutter. With the handle of a knife, which has been dipped in flour, make a crease through the middle of each piece. Brush over each piece with butter; fold, and press edges together. Place in greased pan, one inch apart, cover and let rise. Bake fifteen to twenty minutes in a hot oven, 400°-450° F.

The long process for bread-making is used in making these rolls. In what other ways may bread dough be used? Perhaps the class can bring some good recipes from home.

BATTER CAKES

- | | |
|-----------------------|-------------------------|
| $\frac{3}{4}$ c. milk | $\frac{1}{4}$ tsp. salt |
| 1 egg | 2 tsp. baking powder |
| 1 tbsp. melted butter | 1 c. flour (about) |

Add the well beaten egg to the milk. Mix together the dry ingredients. Sift slowly into egg and milk mixture, beating thoroughly. Drop by spoonfuls on a hot greased griddle. Cook on one side until top is puffed and full of bubbles and edges are crisp. Turn with a spatula or pancake-turner, and cook on the other side. Serve immediately on warmed plates.

Batter cakes are also known as griddlecakes.

Of what material are griddles made? What do they cost? How should they be cared for?

Perhaps some of the class will make waffles instead of the batter cakes. Some one will have a good recipe, or one may be found in the cook book.

EGGS

Hen, duck, goose, turkey, and guinea-fowl eggs are used for food in this country. The hen's egg is the one most commonly found in the market. Perhaps the members of this class who live in the country have used some other kinds of eggs.

The egg has in it food for the baby chick, and for that reason contains all the foodstuffs required for its growth. When the chemist divides the egg into its parts he finds about 12 per cent of protein, about 9 per cent of fat and, in addition, water and mineral matter. Eggs also contain Vitamins A and D. Eggs may replace meat in the diet because they contain a large amount of protein, which is easily digested and used in the body. Eggs are especially good for children to eat in place of meat.

When buying eggs in the market it is often difficult to get them fresh. A fresh egg need not be newly laid, but must be in good condition for human food, although it may be several days old. Eggs that have been treated or stored are not fresh eggs.

Eggs cannot be kept in good condition for a long

period unless some method of preserving them is used. The shell of the egg is porous and allows bacteria from the air to pass through, thereby causing the egg to spoil. The home methods found to be best for preserving eggs are by the use of water glass or lime water. These materials may be purchased from the druggist and should be combined with clean boiled water. After the eggs are placed in the liquid, the container should be kept in a cool place. Eggs that are laid in April, May, or June are the best for preservation, and are also lower in price than at any other season. Large numbers of eggs are put in cold storage every year and these are the eggs that are sold during the winter as "storage" or "packed" eggs.

Eggs are usually sold by the dozen, but, as they vary greatly in size and weight, it would be better if they were sold by weight.

The color of the shell has nothing to do with the food value of an egg. A fresh egg has a slightly rough shell. To be sure an egg is fresh, it may be "candled." Candling is done by making a funnel of cardboard or other material, one end of which fits tightly around the egg; place the egg against this end, and hold it between you and a bright light; in looking at the egg through this funnel, a fresh egg looks clear, while stale eggs are cloudy or dark.

Eggs should be kept in a cool place, preferably in the lower part of the refrigerator. Since eggshells are porous, eggs absorb odors readily, and should never be kept where there are foods with strong odors. Uncooked egg yolks which are left, when only a part of the egg is used, may be kept for some time in the refrigerator by covering with cold water; the white of an egg keeps when tightly covered and put in a cold place. The shell of an egg should not be washed

until it is to be used, since washing the shell makes it more porous.

Eggs that are “soft-cooked”, at a temperature below that of boiling water, are most easily and quickly digested. “Hard-cooked” or hard-boiled eggs are thoroughly digested when not eaten hurriedly, and are more easily digested when cooked in water at a temperature below the boiling-point.

STORING EGGS AT HOME ¹

Water Glass Method. Add one quart of water glass to 10 quarts of clean, boiled soft water, that has been allowed to cool; stir thoroughly. Buy only the **best grade** of water glass; it should be of the consistency of molasses. Eggs may be added to the solution as gathered. Keep in a stone jar in a cool place. Do not use the solution the second year. The water glass may be obtained in either dry or liquid form, and dissolved in either hard or soft water.

Vessels to Use. Use earthenware, glass, or wooden containers but not metal. Clean by thorough scalding. The table below shows the number of eggs which can be packed in jars of different sizes and the amount of liquid necessary.

SIZE OF JAR AND SOLUTION NECESSARY FOR STORING EGGS

SIZE OF JAR	EGG CAPACITY	SOLUTION ² NECESSARY
2 gallon jar	65-80 eggs	7½ pints
5 gallon jar	160-200 eggs	18½ pints
10 gallon jar	320-400 eggs	36½ pints

Earthenware jars usually cost 10 cents a gallon when over five gallons in size.

¹ From “Purdue Handbook of Agricultural Facts”, published by the Agricultural Experiment Station, Purdue University, LaFayette, Indiana.

² Solution means water and water glass combined.

LABORATORY EXERCISES

EGGS FOR BREAKFAST?

SOFT-COOKED EGGS

Never cook an egg at boiling temperature, as this makes the white tough. Place one egg in a pint of boiling water in the top part of the double-boiler. Place boiling water in lower part of double-boiler. Remove from fire and set in warm place. Cook for the length of time desired — five minutes for a soft-cooked egg, seven to ten for a medium-cooked egg. If the eggs have come out of the refrigerator and are very cold it will require a longer time to cook them.

How shall soft-cooked eggs be served for breakfast?

HARD-COOKED EGGS

Place one egg in a pint of boiling water, remove from fire, cover tightly; set in a warm place forty-five minutes to one hour. Using a double-boiler for this is a good method.

Place one egg in a pint of boiling water. Boil for twenty minutes.

When the two eggs are done, examine the whites. Which is the more tender?

What are some of the ways in which to use hard-cooked eggs?

POACHED EGGS

Have a frying-pan two thirds full of water at simmering point, to which salt has been added. In this may be placed muffin rings if they are available. Break each egg separately, pour carefully into muffin ring or water. Do not allow the water to boil. When the egg-white is firm, remove eggs from water, using a pancake-turner. Place each egg on a piece of buttered toast arranged on a warmed platter.

SCRAMBLED EGGS

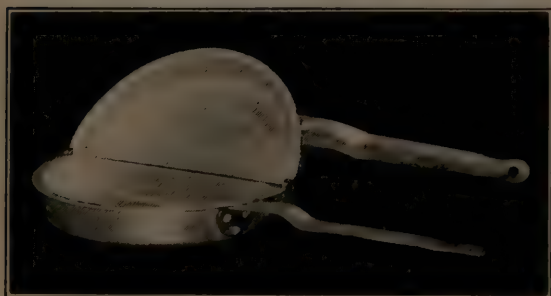
3 eggs	$\frac{1}{16}$ tsp. pepper
$\frac{1}{4}$ c. milk	$\frac{1}{8}$ tsp. salt
1 tbsp. butter	

Beat eggs slightly, add milk and seasoning. Melt butter in top of double-boiler, turn in mixture and cook very slowly, stirring often until white is set. Serve on warmed platter. Bits of chopped ham or other meat may be added if desired.

PUFFY OMELET

4 eggs	1 tsp. salt
2 tbsp. milk	Pepper

Separate the yolks and whites of the eggs. Beat the yolks of the eggs until "creamy" and add the milk, salt, and pepper. Beat the



AN OMELET PAN

whites until they are stiff. Pour the yolks over the whites and fold together carefully. Place in a frying-pan one tablespoon of butter. When it is melted pour in the omelet. Cook on top of the

stove until the omelet is slightly browned on the bottom. Set in oven and bake slowly until omelet is "set" and browned on the top. Have ready a warmed platter. Loosen the omelet from the pan with a spatula. Slide it halfway from the pan to the platter and then fold the half of the omelet in the frying-pan over the half on the platter. Serve.

Grated cheese, minced ham, or chopped parsley may be sprinkled over the omelet before it is folded, in order to vary the flavor.

An omelet-pan may be used in place of the regular frying-pan in making the omelet.

REVIEW QUESTIONS

1. What kinds of eggs are used for food in this country?
2. What foodstuffs does an egg contain?
3. What food may eggs replace in a meal? Why?

4. What other food have we studied which is similar in food value to eggs?
5. What is a fresh egg? A packed egg?
6. Have you ever seen eggs being packed at home for winter use? How was it done?
7. What is the price per dozen for packed eggs? For fresh eggs?
8. Weigh three small eggs, then weigh three large eggs. What is the difference in weight per dozen? What does this prove about purchasing eggs by count or by weight?

THE DINING ROOM

The dining room should be a light, cheerful room, situated so that the sunlight reaches it at some time every day, preferably in the morning. This room should be large enough to permit easy passing behind the chairs when persons are seated around the table.

The walls should be finished in light colors rather than dark, which tend to make the room appear gloomy.

Walls finished in oil paint are very desirable in a dining room. When walls are papered, a paper without design is a good selection; if a figured paper is used, one with a small conventionalized design should be selected; a two-tone paper may look well on the dining-room wall. In the house with ceilings of ordinary height, the wall finish may extend up to the angle made by the ceiling and the wall, and may be finished with a picture molding which matches the woodwork in the room. Plate rails are now seldom used in the best designed dining rooms.

The window curtains should be of a kind easily laundered, since draperies in a dining room are apt to hold dirt and odors and need frequent cleaning. Such materials as scrim, marquisette, voile, or net may be used for glass curtains (those next to the glass); cretonne, chintz, printed linen, Japanese toweling, and pongee may be used for over-draperies, or may be used

alone when it is not desirable to have draperies hung across the glass.

The floor is best made of hardwood, as a rug may then be used instead of a carpet. A dining-room floor would be more sanitary if no covering were used,



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A BREAKFAST ALCOVE

USED INSTEAD OF A DINING ROOM. THE TABLE IS SET FOR BREAKFAST. IT IS MADE ATTRACTIVE WITH THE TWO POTTED PLANTS AND THE HANGING BASKET

but the noise made on a bare floor is annoying to many persons. Linoleum is sometimes used on floors in farmhouses, where hired men must have their meals in the dining room.

The furniture should be plain in design. Wood or cane-seated chairs are perhaps better to use than upholstered, because they are easier to keep clean. A

dining-table with a top having a waxed finish is much better than one highly varnished ; and a table finished so that it is not affected by heat or water is desirable, since doilies are now so generally used.

The large pieces of furniture, such as the sideboard or serving-table, should be placed in the middle of the wall space against which they stand, and straight with the wall, never diagonally across the corner of a room. The dining-table should be in the middle of the room ; especially is this important when there is a chandelier hung from the middle of the ceiling.

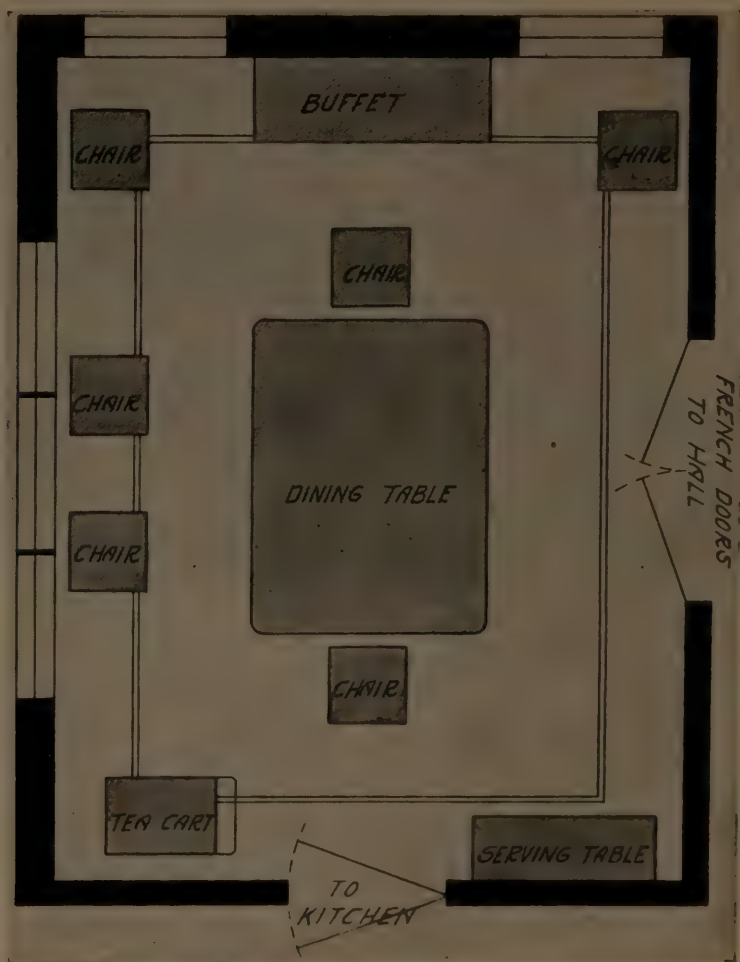
The top of the sideboard and serving-table should not be crowded with dishes of various kinds. A dining room is more pleasing with few pictures, or none at all, and with little bric-a-brac or few dishes used as decoration.

Pictures of dead game or fish are not desirable in a dining room ; a landscape or a picture of a bowl of flowers would be a better selection. When figured wall paper is used, a dining room looks better without any pictures.

When buying a "set" of dishes it is best to select a style with simple decoration or without decoration. Large conspicuous designs and bright colors become tiresome when the dishes are used often. If an "open stock" pattern is selected, broken dishes may easily be replaced.

The knives, forks, and spoons used on a dining-table are called "flat silverware" and may be made of sterling (solid) silver or of plated silver. Many people cannot afford to buy sterling silver and use plated silverware, which wears well when of good quality. The best quality is "triple plate", but "double plate" and often "single plate" are used. Plain, simple patterns in flat silverware are to be preferred to elaborately decorated ones, because more easily cleaned ; but very plain silver scratches easily.

Glassware used on the table may be made of pure lead glass or lime glass, the first being the best, because



A FLOOR PLAN FOR THE DINING ROOM

A GOOD ARRANGEMENT OF THE FURNISHINGS WHEN THE ROOM IS NOT IN USE. NOTE THE BATTERY (GROUP) OF WINDOWS ON THE SIDE, AND THE TWO WINDOWS AT THE END, WHICH FURNISH EXCELLENT LIGHT FOR THE ROOM

it is tough and wears well. Goblets or tumblers, sherbet glasses, or plates should be made of glass which is clear, free from bubbles or cloudiness, smooth, white, and transparent. Glassware may be cut or

etched for decoration. Pressed glassware is more commonly used because it is much less expensive than cut glass or etched glass and is almost as beautiful when well made. Colored glass is also used in making tableware.

Tablecloths and napkins are sold in "sets", when the pattern is the same in both. The best sets are made from linen damask, either a single or a double damask. Double damask is the best. Some linen damask is not bleached and may be purchased as "unbleached damask"; other kinds are partially bleached and are called "silver bleached" damask. Either silver bleached or unbleached damask costs less than the white damask of the same quality.

Cotton damask is a material made to imitate linen damask. It is much less expensive, but stains easily, soils more quickly, and is not so attractive in appearance as linen damask.

Luncheon sets of various types may be used instead of a tablecloth and are much easier to launder.

HOME PROBLEMS AND QUESTIONS

Collect pictures of dining-room furniture; of the interior of dining rooms. Bring them to class for discussion. Perhaps, if there is a furniture dealer in the community, you or the teacher can get furniture catalogues that will be good to study.

Which types of chairs are best for the dining room? Why? Do the chairs in the pictures seem too heavy to move about easily? Are they well braced? Observe whether they would be hard to dust.

What types of tables are best for the dining room? Why?

Which type of sideboard is best?

For what purpose is a side-table used? What is a buffet?

Have you ever seen painted furniture used? Where? When is it suitable in a dining room?

See if you can find samples of the kind of curtain material you think would be good for a dining room.

Find pictures illustrating different methods of hanging draperies at dining-room windows; discuss the rooms for which these are suitable.

Select from a color card or a sample book of wall paper the color you would like to use on your dining-room walls. What color and finish can be used on the woodwork with such walls?

What kind of floor-covering would you like?

The floor should be the darkest part of the room, the walls lighter, and the ceiling the lightest part of the room. Does your color scheme meet this requirement?

You may like to mount on sheets of paper pictures of the furniture you would select to use in your dining room; if you have a sample of curtain material, rug and wall paper that you like, you can mount these. Then make a floor-plan of your room, showing the size of the room, the windows, the doors, and where the china closet is placed. Arrange the furniture in the room. On another sheet make a list of the prices of all the furnishings in the dining room. What is the total cost of furnishing? Tie these sheets together and make a cover for them.

LABORATORY EXERCISES

MEAT DISHES FOR BREAKFAST

BROILED BACON

Place in a hot frying-pan thin slices of bacon from which the rind has been removed. Turn several times during the

cooking. When the bacon is crisp, not burned, drain from the fat carefully and serve on a warmed platter.



FLAT SILVERWARE OF GOOD DESIGN

FROM LEFT TO RIGHT: A BERRY SPOON, TWO SALAD FORKS, A COLD-MEAT FORK, TWO DINNER FORKS AND A SALAD-SERVER. THE COLD-MEAT FORK WOULD BE THE MOST DIFFICULT TO CLEAN

Bacon may be purchased by the piece, sliced in bulk, or sliced and packed in sealed containers. In which form is bacon the cheapest by the pound? Why?

CREAMED DRIED BEEF

Place two tablespoons of fat in a small frying-pan; when it is melted, add about three slices of dried beef torn in pieces. Stir about three minutes, add one cup of milk. Mix thoroughly one tablespoon of flour with two tablespoons of milk; add slowly to the scalding hot milk. Stir to prevent lumping. Cook slowly five to ten minutes. Serve on toast arranged on a warmed platter.

In making this white sauce, why is the flour mixed with milk instead of with fat?

How is dried beef made? Perhaps the butcher will tell you. What does it cost per pound?

What are some other meat dishes that would be good for breakfast? If you have time, try one of these.

MINCED MEAT CREAMED

Put cold left-over meat through the meat grinder. Place in a saucepan with water or gravy enough to cover it, add salt and pepper to taste, simmer until thoroughly heated. Add a lump of butter if water, instead of gravy, has been used. Serve on toast.

In what type of breakfast menu may creamed meat be served?

Suggest other meat dishes suitable for breakfast when meat is to be used.

CARE OF THE DINING ROOM

Good equipment, including labor-saving devices for housework, will save the housekeeper a great deal of time and energy. Good equipment for cleaning should include good brooms, dust mops, a wet mop with wringer, dust cloths, polishing cloths, cleaning powders, soaps, brushes, plenty of clean cloths, and a suction-sweeper if there are many large rugs or carpets to keep in order. A cupboard or closet in which all this equipment may be kept is a great convenience.

The dining room needs some cleaning every day. Hardwood or linoleum-covered floors should be cleaned with the dust mop. The rugs should have the carpet-sweeper run over them after each meal for the purpose of removing all crumbs. The furniture should be dusted if necessary.

After each meal everything should be removed from the dining-table, which should be crumbed with a soft flannelette cloth. A doily should then be placed in the center of the table, on which may be arranged a



TABLE LAID WITH DOILIES MADE FROM HEAVY ART LINEN

bowl of flowers or a basket of fruit or a growing plant in a decorated pot or in a pot covered with crêpe paper. A dining room never looks in order when the table is left partially set between meals or when a white cloth is spread over the partially set table.

Often china closets with glass in the doors are built into the dining-room walls, and these add a very attractive feature to the room, provided the dishes in them are kept in order. The "everyday" dishes will usually not be kept in this cupboard, but rather the "best dishes", or odd dishes which are pleasing when viewed through the glass. Dishes must be removed from the china closet and the closet cleaned whenever the shelves become dusty. Perhaps some of the dishes may need washing also.

The dining room should be given a thorough cleaning once a week.

Silverware should be cleaned whenever it becomes tarnished. There are two methods which may be used in doing this work. (1) Apply silver polish or paste, following the directions given on the box or bottle in which it is purchased. Whiting may be used instead of silver polish, and should be applied with a damp flannelette cloth, rubbing until the tarnish is removed; let the whiting dry on the silverware, then rub with a clean flannelette cloth. Flat silverware or silver dishes in which food is to be served should be scalded in boiling water and wiped dry. (2) A "silver-cleaning pan" may be used, following the directions which come with the pan. This is a very easy method.

Silverware is scratched less if it is washed carefully after each using. Never mix the silverware with the cooking knives, forks, or spoons. Separate the silver knives, forks, and spoons; wash each separately; lay on a dry tea towel and wipe each piece separately.

Lay each piece carefully in the drawer where the silverware is kept, using a separate compartment for each kind.

Table linen should be changed often so that it never becomes badly soiled, since the rubbing necessary to clean very soiled linen injures the fabric. Remove any stains on the table linen before washing (see section on Removing Stains). Soak in warm water for one half hour; wash in hot soapsuds, using the electric washer if there is one in the laundry equipment. Table linen does not need hard rubbing, because it is rarely very dirty. Boil the table linen in soapsuds. Rinse it very thoroughly and put it through a blue water which is not too deep in color. Good linen damask does not need starching; poor linen will look better if rinsed in a thin cooked-starch water before drying.

Table linen should be stretched into shape and hung on the line with the middle lengthwise of the cloth over the line. It may be taken from the line when partially dry and ironed at once. When a tablecloth is to be sprinkled it must be dampened evenly and should be quite damp to iron well. When taking the dry cloth from the line fold it carefully, since this makes the ironing easier.

A tablecloth should be ironed on the wrong side until partially dry, then turned and ironed on the right side until thoroughly dry. It requires very careful ironing to make a cloth smooth, so that it will lie flat on the table. Tablecloths are usually folded with three creases lengthwise, the tops of the three creases being on top of the cloth. Roll the ironed cloth around a covered cardboard roll made for the purpose; place in a drawer in such a way that the tablecloth does not touch the ends of the drawer. Napkins are folded square, with either two or three creases; only one fold is used

for luncheon napkins, and occasionally the napkin, after being folded square, is folded diagonally to make a triangle.



IRONING NAPKINS ON A POWER OR FLAT IRONER, SOMETIMES CALLED A MANGLE

THIS MACHINE IS A GREAT HELP IN IRONING TABLE LINEN OR BED LINEN

Table doilies are washed in the same manner as tablecloths, unless the doilies are of colored material; then they should not be boiled. Embroidered doilies should never be starched, but should be ironed when

very wet, the doily being placed face down on a pad made for the purpose or on a clean cloth folded to make six or eight thicknesses.

HOME PROBLEMS AND QUESTIONS

In what sizes are napkins made? What is the price per dozen unhemmed? For finished napkins? At what season of the year may table linen be purchased at the lowest cost? *

Have you seen any "silver-cleaning pans" advertised? What is the price of such a pan?

Make a list of the electric sweepers you have seen used or advertised. What is the price of a good sweeper? For what purposes are the attachments used?

Discuss the plans for a cleaning closet. How large should it be? How should the cleaning utensils be placed in the closets? Where should the closet be placed in the house to be most convenient?

TABLE MANNERS

No matter how educated or pleasing in character one may be, the impression made upon others is not good if one's manners are poor.

Certain rules for table behavior or manners have been adopted because they make the eating of the meal easier and more graceful, and the serving of it more convenient.

The following are a few rules that should be observed always when at the dining-table:

1. Always be prompt for meals.
2. Never go to the table unless hands and face are clean and the hair is in order.

3. Stand behind your chair until the hostess takes her seat.

4. The napkin should be laid across the lap without being entirely opened out. Never stick the corner inside the collar. If the napkin is to be used again, fold it neatly before leaving the table.

5. The knife should be held in the right hand and the fork in the left when they are used at the same time.



CORRECT METHOD OF HOLDING THE KNIFE
AND FORK WHEN CUTTING FOOD ON THE
PLATE

Hold the knife and fork so that the end of the handle touches the palm of the hand. The point of the index-finger is on the top of the handle of the fork at the lower end, but not on the tines. The knife must be laid on the plate when not in use. Both knife and fork should be placed side by side on the plate when one has

finished using them at the end of a course. The fork, when being used to carry food to the mouth, may be held in either hand, and may be held in much the same position as when used with the knife, or like a spoon.

6. The spoon should be held in the right hand, and such food as soup, tea, or coffee should be taken from the side of the spoon. A spoon used for stirring tea or coffee should be laid on the saucer after use and before drinking from the cup.

7. Always sit erect in the chair while eating. Keep the arms and elbows off the table.

8. Never eat hurriedly, and always eat without making any noise.

9. Do not talk when the mouth is full of food.

10. Ask politely for dishes to be passed, rather than reach across the table. Pass dishes to others at the table. Never take more than your share of any food that is passed.

11. Try never to spill food or to drop any on the tablecloth or doily.

12. Never complain about the food. If it is not the kind desired, it need not be eaten.

13. If it is necessary to leave the table before the others are ready, ask to be excused by the hostess.

14. Do not talk about disagreeable things during the meal.

15. Watch the hostess and follow her in using silverware or dishes, since it is her duty to be an example for others at the table.



THE SERVING-DISH SHOULD BE PASSED TO THE
LEFT OF THE PERSON AT THE TABLE

HOME PROBLEMS AND QUESTIONS

The following breakfast will be served during the next laboratory period :

Orange
Oatmeal

Toast
Cocoa

Make a list of the dishes and silver that will be needed in setting the table and serving the meal.

Decide how much of each food will be required for serving the number who are to eat the meal.

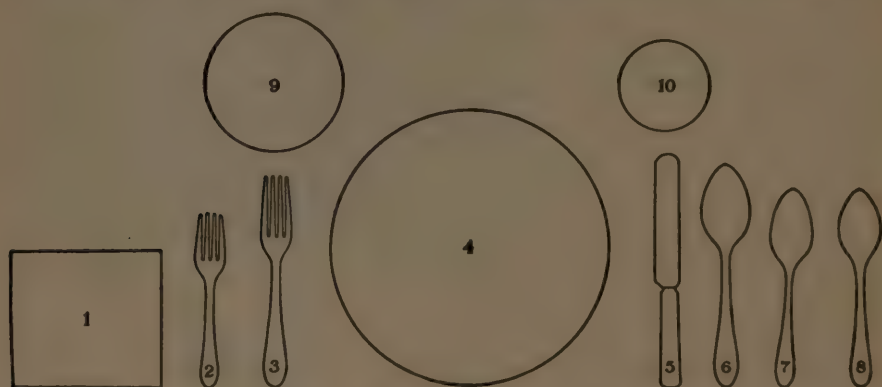
Decide the order of work for preparation of the meal — that is, which food must be put on to cook first, which second, and so forth.

What will the food cost for each person?

LABORATORY EXERCISES

SERVE A BREAKFAST

Setting the table: Place the table-pad or silence-cloth on the table. Over this lay the cloth, arranged straight and smooth. If a center doily is used, place this in the middle



ARRANGEMENT OF THE "COVER" FOR DINNER

1. NAPKIN. 2. SALAD FORK. 3. DINNER FORK. 4. DINNER PLATE.
5. DINNER KNIFE. 6. SOUP SPOON. 7. DESSERT OR SAUCE SPOON.
8. COFFEE SPOON. 9. BREAD-AND-BUTTER PLATE. 10. WATER GLASS

of the table. Doilies and table-runners may be used, instead of a tablecloth, for breakfast, luncheon, and supper. Asbestos pads should be placed under all hot dishes when doilies or runners are used on a polished table.

A cover means the space with the silver, glass, and china allowed for each person. Enough space must be allowed so that no one is crowded. Twenty-two inches is the least space that should be used.

At the center of each cover, place a plate, the kind depending on the meal that is served. For breakfast it will probably be the fruit-plate. At the right of the plate place the knife, with its sharp edge toward the plate and the end of the handle about one inch from the edge of the table. Next to the knife place the spoons, with the bowls up.

At the left of the plate, place the fork or forks with the tines up and the end of the handle about one inch from the edge of the table. To the left of the fork lay the neatly folded napkin.

At the end of the knife, place the glass, right side up. At the end of the forks, place the bread-and-butter plate.

If a butter-spreader is used, place this across the edge of the bread-and-butter plate, or on the table at the right of the plate.

When flowers are used they should be low, or not high enough to obstruct the view across the table.

The dishes from which foods are to be served should be placed conveniently for those doing the serving. Place the serving-spoons and the carving-knife and fork where they will be needed, but do not place them in the dishes before beginning the serving.

Cups and saucers, sugar-bowl and cream-pitcher, should be placed in front of the hostess, with the coffee-pot or teapot at her right.

The table should never look crowded with dishes. When the hostess is serving the meal, a tea-cart at her side may be used for holding dessert-dish, bread-plate, water-pitcher, and so forth.

Place the chairs so that the edge of the seat just touches the tablecloth, but does not keep it from hanging straight.

LABORATORY EXERCISES (Continued)

If there is a school laundry, practice work in laundering table linen may be given. If not, each girl may launder napkins and doilies at home, bringing to class a sample of the finished work.

Clean the silverware at school or at home, using one of the methods suggested.

How should cut glass or pressed glass with deep "cuts" be cleaned?

Clean the china closet, the silver and linen drawers.

Clean the dining room at school or at home. Discuss methods to be used for floor, rugs, furniture, woodwork, and walls.

STYLES OF SERVING

There are three methods of serving meals :

1. English, used in ordinary family service. Foods are served at the table by the host and hostess and other members of the family. The served dishes may be passed by the household helper, or passed from one person to another at the table. The hostess usually serves the soup, salad, and dessert; the host serves the meat and vegetables. This is the style of serving used in most American homes.

2. Russian, used for very formal meals. Each plate is served in the kitchen and placed in front of the guest by the household helpers; or the empty plates are placed before each guest and the serving-dishes are passed to each person by the household helper. No serving-dishes are placed on the table. This form of service is not practical for the ordinary family, because it requires more work than the English service.

3. Combination, or compromise, used for informal meals. This is a combination of the two other styles. For example, the soup or salad is served in the kitchen, and the meat and vegetables are served at the table.



"DINNER IS SERVED"

THE TABLE IS SET FOR FOUR PEOPLE.

THE DESERT IS ON THE TEA CART.
BUTTER ARE ON THE TABLE

THE MEAT, VEGETABLES, SALAD, BREAD AND

Every hostess may follow her own ideas about serving, as far as details are concerned, but a few general rules should be followed:

1. Serving-dishes from which the guest is to serve himself must be passed to the left of the guest. Why?

2. Plates that have been served are placed in front of the guest from the left side.

3. Used plates are removed from the left side when it is possible to do it conveniently.

4. When removing dishes between the courses, use the following order: remove the dishes containing food, then the used dishes, next the clean dishes and silver that will not be needed further, then the crumbs from the cloth (if necessary). A table never looks attractive when dirty dishes from one course remain during the next course, and even at the most informal meals it is better to remove dishes between courses. This work may be done by the daughter. When the family is very small, sometimes the dirty dishes are placed on a side-table or tea-cart, from which the dessert is taken, thereby saving the housekeeper steps in serving.

5. In removing dishes from the table, when serving an informal meal, they may be placed on a hand-tray for carrying to the kitchen. Never "stack" dishes at the table or for removing from the table.

Set the table for breakfast. Practice serving.

If no dining-room furniture is available, the supply-table may be used. Perhaps dishes to use in setting the table may be borrowed until the school can get such equipment. If no other way is possible, let every member of the class arrange a cover at the laboratory desk, using laboratory dishes. This is never a desirable plan, however, because the equipment does not supply the best type of dishes nor the proper kind.



THE FIRST COURSE IS BEING REMOVED TO THE CART AND THE DESSERT IS BEING PASSED. BECAUSE THE
TEA CART IS ALREADY FULL, THE GIRL AT THE LEFT IS EXCHANGING HER SALAD PLATE FOR HER DESSERT
AND THE HOSTESS WILL SET THE SALAD PLATE IN THE SPOT WHERE THE DESSERT PLATE STOOD

LABORATORY EXERCISES

SERVE A BREAKFAST

Suggested Menu :	Orange	Toast
	Oatmeal	Cocoa

Would this type of breakfast suit every family? Why?
Review recipes.
Cook and serve meal.

Several lessons might be given on serving breakfasts.

Prepare and serve breakfast at home. Write a report of the work, stating methods used, menu, and time required. When you do this work again, by what methods can you shorten the time required for the work?

THE PLAN FOR SUPPER OR LUNCHEON

In some families the meal served at noon is called luncheon and is followed by dinner in the evening; in others, dinner is the meal served at noon, followed by supper in the evening. Luncheon and supper are simpler meals than dinner.

The plan varies greatly under different conditions, but the usual types of food served are meat or meat-substitute dishes, salads, vegetables, bread in some form, and perhaps a simple dessert or cake. "Quick breads" are often used for luncheon or supper.

Many consider a cream soup, a vegetable salad, bread, stewed fruit, and cookies a good combination for such a meal, while other families prefer a meat dish, a hot vegetable, and bread; still others may consider bread and milk a satisfactory menu. No family needs, in one meal, foods of all the types suggested.

Luncheon or supper is a meal for which it is convenient to use the "left-overs" in various ways. Bits of meat may be combined with other foods to make

attractive dishes. Small portions of vegetables may be made into salads or soups, or combined with meat. Sometimes a salad is made of left-over fruit, and used at the end of the meal in place of a dessert.

Some housekeepers are very wasteful in throwing into the garbage-can small bits of clean food that may be left from a meal. Often persons object to "left-overs", but this is usually the case when the housekeeper has not learned how to make them into dishes which are well flavored and pleasing in appearance.

When bits of meat are left from a meal they should be put in a covered container and placed in the ice-box or some other cool place. Vegetables with a strong flavor should be covered if put in the ice-box. All "left-over" food should be used promptly and not left to spoil.

The cost of food should be considered, and if anything can be saved by careful watching and planning it is a part of the housekeeper's business to do this.

There are several ways of reducing the amount of money to be spent for food: (1) buy the foods that are in season; (2) buy those which contain the greatest food value, these are not always the highest priced; (3) buy in quantity any foods that can be properly stored; (4) prepare and cook carefully, so that nothing shall be wasted; (5) save every part of the food that is fit for use.

LABORATORY EXERCISES

CREAM SOUPS

CREAM OF TOMATO SOUP

Make one cup of No. 1 White Sauce. Strain cooked tomatoes through a wire sieve, using one half cup of juice. Place tomato-juice in saucepan, heat, add one sixteenth

teaspoon soda. Add the heated tomato-juice to the white sauce. Re-heat and serve in warmed soup-plates.

Try mixing one tablespoon tomato-juice and one tablespoon of milk, and see what happens. The soda prevents this action, which is the curdling of the milk.

CREAM OF CORN SOUP

$\frac{1}{2}$ c. stewed or canned corn
1 c. milk

1 tsp. flour
1 tbsp. butter

Make a white sauce of the milk, butter, and flour. Less flour is needed for thickening, because the corn will help thicken the soup.



CORRECT METHOD OF HOLDING THE SPOON
WHEN EATING SOUP

Heat the corn and press through the vegetable-ricer. Add corn to the white sauce. Re-heat. If desired, a spoonful of whipped cream may be placed in each soup-plate and the soup poured over it.

TO SERVE WITH SOUPS

Soup-sticks. Butter slices of bread. Cut into strips. Brown them slowly in the oven.

Croûtons. Cut buttered slices of bread into cubes. Brown in oven.

Wafers. Heat salted wafers in oven until crisp.

Parsley. Chopped parsley is sometimes sprinkled over the top of cream soups as a garnish.

Celery. Crisp celery is always good to serve with soups.

If possible, bring from home other recipes for cream soups.

REVIEW QUESTIONS

1. What are the foods usually served for luncheon or supper? Should all of these be served in the same meal?
2. What are "left-overs"? How may they be used?
3. How should "left-overs" be cared for?
4. Why do some persons object to "left-overs"?
5. How may the housekeeper reduce the amount of money spent for food?
6. Name some foods that are "out of season" at the present time. Why are they expensive?
7. State ways in which food is wasted in cooking.
8. When should soda be added to tomato soup? Why?
9. Are cream soups of much food value? Why?
10. Name some foods that should not be served when cream soups are used in the meal plan. Explain.
11. Make several supper or luncheon plans.

MEAT SUBSTITUTES

Such foods as cheese, milk, poultry, nuts, dried peas, beans, lentils, cowpeas, and soy beans are sometimes used in the diet in the place of meat, and are commonly called meat substitutes.

In the United States, people eat more meat per person than in any other country, and more than is necessary. This is because the flavor of meat is very much liked, because meat is easily cooked, and because it is popularly believed to be necessary for the best muscular work. It has been found, however, that meat may be replaced, for a part of the time at least, by other foods that contain a large amount of protein, without injury to the body and without loss in muscular strength. If meat is high in price it is well to remember this fact when planning meals.

Cheese is a product made from milk. When divided into its parts by the chemist, cheese is found to contain about one third water, one third fat, and one third protein. Cheese is usually divided into two classes:

(1) hard cheese, such as American Cheddar cheese, Edam, and Roquefort, and (2) soft cheese, such as Neufchâtel, Camembert, and cottage cheese.

The cheese most commonly found in the market is American Cheddar cheese, sometimes called "American cheese" or "New York cream cheese." The States making the most cheese are New York and Wisconsin. Much of our cheese comes from foreign countries, as, for example, Edam cheese from Holland, and Neufchâtel from France.

Cottage cheese is often made at home when there is an extra supply of milk; or skim milk may be used.

American cheese is usually purchased by the pound. A large family may find, however, that purchasing a whole cheese is a better plan, as the cost will be less. Cheese that is to be kept for several days after it has been cut should be placed on a plate and left uncovered in a dry clean place, or it may be covered with a cloth.

Some persons consider cheese hard to digest, and this may be so when it is eaten too hurriedly, or eaten after a meal at which enough food has already been eaten. When ground or grated cheese is combined with other foods, it is well digested by most persons.

LABORATORY EXERCISES

CHEESE

If there are several kinds of cheese sold in the local market it would be interesting to have a sample of each type in the laboratory for examination. Observe the texture and flavor. What is the price of each kind?

CHEESE SOUFFLÉ

$\frac{1}{2}$ c. No. 4 White Sauce

3 eggs

$\frac{1}{4}$ c. grated cheese

Few grains cayenne

Add the cheese and cayenne to the hot white sauce. Beat the yolks of the eggs until they are thick and lemon colored; pour slowly over these the white sauce. Mix carefully. Let stand until cool. Beat the whites of the eggs very stiff. When white-sauce mixture is cool, fold in the stiffly beaten egg-whites. Turn into a buttered baking-dish, set the dish in a pan of warm water and bake in a moderate oven (350°–400° F.) until firm. Serve at once. The baking-dish may be placed in a holder made for the purpose, or it may be wrapped with a napkin before being placed on the table.

CHEESE STRATA

In the bottom of a buttered baking-dish place thin slices of bread, over this pour hot No. 3 White Sauce, on this a layer of grated cheese, then layers of bread, of white sauce, and more cheese, until the dish is filled. Cover the top with buttered bread crumbs. Bake in a slow oven (250°–350° F.) about thirty minutes. Serve in baking-dish.

WELSH RABBIT

$\frac{1}{4}$ lb. grated cheese	1 egg
$\frac{1}{4}$ c. cream or milk	2 tsp. butter
$\frac{1}{2}$ tsp. mustard	Few grains cayenne
$\frac{1}{2}$ tsp. salt	Toast

Place the cheese, mixed with the cream or milk, in top part of double-boiler and heat until the cheese is melted. Then add the beaten egg, to which the mustard, salt, and cayenne have been added; then add the butter. Cook until it thickens, stirring constantly. Pour over toast. Welsh rabbit is often made in the chafing-dish.

BREAD CRUMBS

All crusts and pieces of bread should be saved for bread crumbs. Dry them in a slow oven. Put through a food-grinder, or crush by placing on a bread-board and using a rolling-pin. Store the crumbs in open jars, never in tightly closed containers. If the crumbs are to be kept for several

weeks or months, a cloth should be tied over the top of the container.

Buttered bread crumbs, to be used on the top of scalloped dishes, are prepared as follows :

1 c. bread crumbs	2 tbsp. butter
Salt and pepper, if desired	

Melt the butter in a frying-pan. Add the crumbs with which the seasonings have been mixed. Stir until the butter is thoroughly mixed with the crumbs.

Other cheese dishes may be made if desired.

The class may be divided into groups and each group make one recipe, the others copying the recipe. When family-size recipes are used, perhaps some of the products may be sold, either to individuals or in the lunchroom, if there is one.

REVIEW QUESTIONS

1. Name the meat substitutes.
2. Why are they called meat substitutes?
3. From what is cheese made?
4. What does the chemist find that cheese contains?
5. Into what two classes is cheese divided?
6. Name some examples of each class.
7. Which is the most commonly used cheese?
8. How is cottage cheese made?
9. Find out, if you can, how American Cheddar cheese is made.
10. How is cheese kept in the grocery?
11. What is the price per pound of American Cheddar cheese?
12. How should cheese be kept in the home?
13. Make a luncheon or supper plan in which each of the cheese dishes made in the laboratory might be served.

MEAT SUBSTITUTES (*Continued*)

NUTS

Nuts in general contain a large amount of fat and protein and may sometimes be substituted for meat in the diet. They may be used in their natural

form, or they may be ground and combined with other foods.

Peanuts are often used for making "peanut butter", which is a very valuable food.

English walnuts, almonds, and peanuts are the varieties of nuts most used. These are cultivated nuts, grown in the Southern States and California. Black walnuts, hazel nuts, hickory nuts, pecans, and chestnuts grow wild in some parts of the United States.

Nuts should not be eaten at the end of a meal when one has already taken the food needed. Nuts may be hard to digest when they are not chewed thoroughly.

DRIED LEGUMES

Peas, beans, lentils, soy beans, and cowpeas belong to the class of vegetable foods called legumes. They contain a large amount of protein, fat, carbohydrate, and mineral matter.

Dried beans, peas, and lentils are foods used especially in winter. When serving them it is not necessary to use meat at the same meal. Cowpeas and soy beans, while not so common, are used in the same way as beans, peas, and lentils.

Legumes may be baked, boiled, or combined in some way with other foods. Dried legumes require long periods for cooking. A fireless cooker is very useful when cooking legumes, or the pressure-cooker can be used and the time required much shortened.

Dried legumes must be thoroughly cooked to make them good for food, since the cellulose in them is tough. They are often soaked in water for several hours before cooking.

Dried legumes are usually purchased by the pound. Buying in quantity makes the cost less.

LABORATORY EXERCISES

DRIED LEGUMES

Examine samples of beans, dried peas, split peas, lentils, soy beans, and cowpeas. Compare the price by the pound. Which of these may be purchased at groceries in the neighborhood? Try the seed-store for cowpeas and soy beans.

BAKED BEANS

1 qt. white beans	1 tsp. mustard
1 tsp. soda	$\frac{1}{2}$ c. molasses
$\frac{1}{4}$ lb. salt pork	Salt, if needed
1 small onion, if desired	Cayenne, if desired

Pick over, wash, and soak beans in cold water overnight. Pour off any water remaining. Put in kettle, cover with



A BEAN POT

USED FOR BAKING BEANS

water, add soda and boil gently until the beans are slightly softened. This boiling is sometimes called "par-boiling." Drain again. Put the beans into the bean-pot. Cut the pork into slices, but do not remove from the rind; press down into the beans with rind up. Place sliced onion on top. Mix the molasses, mustard, salt, and cayenne with one pint of boiling water and pour over beans. If liquid does not

show on the surface, add more boiling water. Cover pot. Bake in slow oven six to eight hours. Uncover during the last hour, so that the beans will brown on top. A fireless cooker or oven may be used for baking beans.

NUT AND CHEESE LOAF

1 c. cottage cheese	$\frac{1}{4}$ tsp. pepper and 1 tsp. salt
1 c. nut meats	2 tbsp. chopped onion
1 c. bread crumbs	1 tbsp. fat
Juice of $\frac{1}{2}$ lemon	$\frac{1}{4}$ c. water or meat stock

Grind the nuts ; mix the cheese, nuts, salt, pepper, crumbs, and lemon juice. Cook the onion with the fat and water, or with the meat stock, until it is tender ; add to other ingredients. Mix thoroughly. Pour into greased baking-dish. Bake about twenty minutes. Serve with tomato sauce.

TOMATO SAUCE

1 c. tomato-juice	1 tbsp. fat
2 tbsp. flour	1 slice onion
Salt and pepper	

Boil the onion in the tomato-juice for three minutes. Remove the onion. Continue as for any white sauce.

PEA SANDWICHES

$\frac{1}{4}$ c. pea pulp	1 tbsp. grated cheese
1 tbsp. chopped nuts	Lemon juice

Press canned peas through the vegetable-ricer. Measure the pulp, add the cheese, chopped nuts, and enough lemon juice to make the right consistency for sandwich filling. Spread between thin slices of bread.

Plan a meal in which such sandwiches would be suitable to serve.

REVIEW QUESTIONS

1. What foodstuffs are found in large amounts in nuts?
2. Which are the nuts commonly used in this locality?
3. What is the price per pound of peanuts? English walnuts?
4. Is it more expensive to buy them shelled?
5. How many pounds of peanuts in the shell does it take to make one pound of shelled nuts?



FOOD GRINDER

USED FOR GRINDING MEAT, CHEESE, VEGETABLES, NUTS, BREAD, AND OTHER FOODS

6. How is peanut butter made?
7. What are the commonly used dried legumes?
8. What foodstuffs do they contain?
9. Why are they called meat substitutes?
10. Why are dried legumes soaked in water?
11. How should dried legumes be cooked?

SALADS

Salads may be made from vegetables, fruits, or meats; or they may be a combination of vegetables and fruits, or of meats and vegetables to which has been added some kind of dressing and perhaps small amounts of other materials to give flavor.

Salad dressings are of three types: mayonnaise, French, and cooked dressing, and each type may be varied, making many kinds.

Lettuce is used in the making of many salads, often only as a "garnish" to make a dish more attractive. Either "head lettuce" or "leaf lettuce" may be used for this purpose. "Head lettuce" makes the most attractive garnish, because the leaves can be arranged cup shape, to hold the salad. Leaf lettuce for a garnish is more attractive when shredded. The leaf should be rolled, then cut in thin strips with scissors kept for the purpose.

Lettuce is usually sold by the pound; head lettuce is more expensive than leaf lettuce. When the lettuce comes from the store or from the garden, it should be washed, placed in a damp cloth bag, and laid in a cool place, preferably in a refrigerator. When lettuce is kept in the refrigerator for several hours, it becomes crisp.

When used for a salad lettuce should always be clean, crisp, and cold. Celery tops, endive, nasturtium leaves, water cress, and other garnishes are sometimes used for salad. Head lettuce may be cut into slices an inch thick, across the head, laid on a salad plate, and served

with a salad dressing, when it is known as "head-lettuce salad."

Lettuce is valuable as a food because of its mineral matter and vitamins, and should be served often. Many families now use it at all seasons of the year, even every day.

Salad oil is one of the materials used in some dressings. Salad oil may be made from olives, when it is called olive oil; or it may be made from corn or cottonseed, when it is usually sold by a trade name. When buying salad oil one should examine the label on the can or bottle, to see whether the oil is made from olives or other material, since oil made from corn or cottonseed should not be sold at so high a price as olive oil.

Eggs often form a part of the salad dressing and, when they are combined with the oil and used on the salad, add to its value as a food. Whipped cream also adds to the food value of a salad.

When meat salads are served for luncheon or supper, no other meat dish is needed. Vegetable salads, when made of the legumes, can be used as a meat substitute. Fruit salads can be substituted for dessert in many meals.

Besides being used as a part of a meal, salads are often served with sandwiches as "refreshments."

An attractive salad should have the following qualities: freshness, crispness, and coolness; it should have an appetizing flavor, and should combine well with the other food served in the meal.

LABORATORY EXERCISES

SALADS, SALAD DRESSINGS

Use a corn oil, a cottonseed oil, and olive oil in making the following dressings. The class may be divided into groups for the work. Compare the price of the three kinds of oil. Compare the taste of the dressings.

Lettuce should be washed, dried on a cloth, and be thoroughly crisp before it is used with salads.

FRENCH DRESSING

1 tbsp. sugar	$\frac{1}{4}$ tsp. paprika
2 tbsp. vinegar	$\frac{1}{8}$ tsp. salt
4 tbsp. oil	$\frac{1}{8}$ tsp. white pepper
1 tsp. scraped onion, or onion juice	

To the dry ingredients add the onion and the vinegar; stir thoroughly, add the oil, beat until of a thick creamy



"CANDLE SALAD"

MADE WITH A SLICE OF PINEAPPLE, BANANA, A RED CHERRY, AND SOME STRIPS OF PIMIENTO, ALL PLACED ON SHREDDED LETTUCE. THE FRENCH DRESSING IS IN THE BOTTLE WHICH IS USED FOR SERVING SUCH DRESSING AT THE TABLE. SHAKE THE BOTTLE BEFORE POURING OUT THE DRESSING

consistency. French dressing may be made in quantity and kept for several days in a cold place. Beat thoroughly every time it is used.

MAYONNAISE DRESSING

1 egg-yolk	$\frac{1}{2}$ tsp. sugar
$\frac{1}{4}$ tsp. salt	$\frac{1}{2}$ tsp. mustard
$\frac{1}{8}$ tsp. paprika	$\frac{1}{2}$ c. oil
$1\frac{1}{2}$ tbsp. vinegar or lemon juice	

The oil should be cold. Beat the egg-yolk with the Dover egg-beater until it is thick and lemon-colored ; add dry ingredients. When the mixture is well blended, add a little of the oil ; beat, add more oil ; beat again. When the mixture is thick, add a little of the lemon juice or vinegar ; beat. Then add more oil and vinegar or lemon juice, beating constantly. Sometimes, in making this dressing, the mixture separates or curdles and does not become thick. When this happens, beat another egg-yolk until it is thick, and add the salad dressing slowly to the egg, beating constantly. Keep in a cold place.

COOKED DRESSING

1 egg	$\frac{1}{2}$ tsp. salt
$\frac{1}{4}$ c. vinegar	1 tbsp. sugar
$\frac{1}{2}$ c. milk	$1\frac{1}{2}$ tbsp. flour
$\frac{1}{4}$ tsp. mustard	1 tbsp. butter

Paprika if desired

Make a white sauce from the flour, butter, and milk ; add the seasonings. Beat the egg until it is thick and lemon-colored. Gradually pour white sauce into the beaten egg, stirring well. Place in double-boiler and cook five to ten minutes. Add the vinegar slowly. If there are lumps, strain through a wire sieve. Cool.

If the dressing is thicker than desired, it may be thinned with a little cream or milk when it is to be used. For some salads, whipped cream may be added to the dressing.

THOUSAND ISLANDS DRESSING

1 c. mayonnaise	1 tbsp. chopped green pepper
$\frac{1}{4}$ tsp. paprika	1 hard-cooked egg
1 tbsp. chopped pimientos	1 tbsp. catsup
$\frac{1}{2}$ c. chili sauce	

When ready to serve, the chopped ingredients may be added to the mayonnaise. Serve over head lettuce.

SALMON SALAD

$\frac{1}{2}$ c. salmon	1 small chopped sweet pickle
1 tbsp. chopped celery or shredded cabbage	
Mayonnaise dressing	

Drain oil from salmon, remove all pieces of bone and skin. Add the celery or cabbage and the pickle. Mix carefully with a fork. Add dressing. Place on a bed of shredded lettuce. Garnish with hard-cooked egg if desired.

BANANA SALAD

Peel and scrape a banana. Slice lengthwise and once crosswise. Arrange on lettuce. Use cooked dressing to which whipped cream has been added. Chopped nuts may be sprinkled over the top.

VEGETABLE SALADS

Cooked and fresh vegetables make good salads with the addition of French or cooked dressing. The following combinations are suggested:

Diced carrots, peas, and chopped peanuts.

Green beans, chopped onion, and parsley.

Potato, cucumber, and green pepper.

Lima beans, carrots, and peas.

Tomato; stuffed with cabbage, celery, or cucumber.

Have students bring other tested salad recipes to class. Classify them into the following groups: (1) those suitable to serve as main luncheon or supper dish; (2) those suitable to serve with heavy dinners; (3) those suitable for picnics.

Make several luncheon or supper menus in which a salad is the main dish.

REVIEW QUESTIONS

1. Name the types of salad dressings.
2. What kinds of oils may be used in making dressings?
3. Which is most expensive?
4. What is the use of a "garnish"? What are some materials used for garnishing?
5. When should meat salads be served? Prepare a plan for a luncheon or supper in which it is proper to serve salmon salad.
6. What kind of vegetable salad can be substituted for meat in the meal? Why? Prepare a plan for a meal in which "Lima bean, carrot, and pea" salad is suitable.
7. Plan a luncheon or supper in which a fruit salad is suitable.
8. What are the characteristics of a good salad?

9. What may be served with salads?
10. Bring to class a good recipe for cheese crackers and one for cheese straws.
11. How should wafers be crisped when served with salads?
12. What is "head lettuce"? "Leaf lettuce"? What is the price of lettuce?

LABORATORY EXERCISES

SERVE A LUNCHEON OR SUPPER

Suggested Menu : Cream of Corn Soup
Cabbage Salad
Bread and Butter
Baked Apple with Cream

Make other menus for supper or luncheon.

Serve one of these meals at home and report on the work, stating time required and methods used in doing the work.

DRIED FRUITS

Drying is one way of preserving fruits. Many house-keepers on farms dry apples and other fruits at home, but a very much larger amount is dried by commercial firms. Many thousands of tons of peaches, apricots, prunes, and raisins are dried in California every year and shipped to all parts of the United States and to many other countries. Some of our dried fruits, such as dates, figs, and raisins, come from foreign countries.

Prunes are a kind of plum that have been dried. Raisins are dried grapes. Dates are the fruit of the date palm. Figs come from the fig tree.

Apricots, peaches, and prunes are usually purchased by the pound, and when packed in bulk should be carefully washed before using. They are often packed several pounds in a box, and if the whole box is purchased are cheaper in price.

Raisins, figs, and dates of the best grade are sold in

carefully wrapped packages. They can also be purchased by the pound. "Seeded" raisins are sold by the box, but it is well to look them over carefully to remove any seeds that may have been left.

Dried fruits, before cooking, should be washed carefully and then soaked in cold water overnight. The soaking shortens the time required for cooking and develops the flavor. They should be cooked in the water in which they have been soaked. A fireless cooker is useful in cooking dried fruits because they require long cooking.

Dried fruits are used in the same ways as canned fruits. When such dried fruits as apricots, peaches, and prunes are well cooked they make a good dessert for luncheon or supper and may occasionally be used as the fruit dish for breakfast. Prunes and figs have laxative properties and are especially good for anyone troubled with constipation. Dates, raisins, and prunes are good for children. Dates and raisins are very good cooked with cereals; they sweeten the cereal so that less sugar, or no sugar, need be used when eating the cereal. Prune juice is sometimes given to infants and children to help regulate the bowel movement.

LABORATORY EXERCISES

DRIED FRUITS

Experiments: 1. Wash one half pound each of dried peaches, prunes, and apricots; to each add one pint of water. Soak over night. Drain off and save any remaining water. How much does each fruit weigh? Explain what has happened.

2. Place the prunes in a closely covered kettle, add liquid in which they were soaked. Set kettle inside of large kettle of fireless cooker, fill cooker kettle half full of hot water. Cover cooker kettle. Place on hot radiator in

cooker. Cook about three hours. Do not open the cooker during this period. Remove prunes from cooker, add one half cup of sugar and boil for ten minutes over direct heat. Serve cold.

3. Place apricots in a saucepan, add liquid in which they were soaked, cover saucepan. Place over fire and simmer gently until fruit is tender. Hot water may be added if necessary. Add one half cup sugar, and heat until sugar is melted. Serve cold.

4. If there is a steam cooker in the laboratory, cook the peaches in this. Follow the same directions as for Experiment 2, except that the small kettle can be set directly on the shelf of the steam cooker.

5. Compare the fruit cooked in the different ways, as to appearance. Which is the most economical way of cooking?

PRUNE WHIP

1 egg-white	1 c. prune pulp
1 tbsp. lemon juice	

Remove the seeds from the cooked prunes, rub prunes through a wire sieve, add lemon juice. Heat pulp. Beat egg-white very stiff. Add prune pulp gradually, folding it into the egg-white. Pile on serving-dish. Chill and serve as dessert.

DATE PUDDING

$\frac{3}{4}$ c. sugar	1 tsp. baking powder
2 eggs	1 c. dates, seeded and chopped into
$\frac{1}{4}$ c. flour	small pieces
1 c. chopped English walnut	$\frac{1}{8}$ tsp. salt
meats	

Beat the eggs slightly, add the sugar, beat until creamy. Mix dates, nuts, baking powder, flour, and salt, and add to first mixture. Mix and turn into a greased baking-dish. Bake in moderate oven (350°–400° F.) twenty to thirty minutes, or until the pudding just becomes firm. Serve hot or cold with whipped cream.

REVIEW QUESTIONS

1. Name the dried fruits you have seen.
2. What fruits are often dried at home?
3. What methods are used in drying fruits at home? Farmers' Bulletin No. 984, "Drying Fruits and Vegetables in the Home", from Division of Publications, U. S. Department of Agriculture, Washington, D. C., will tell you how fruits are dried.
4. What fruit are prunes? Raisins?
5. From which countries do we obtain dates, figs, and raisins?
6. What is the price per pound of apricots, prunes, and dried peaches?
7. In what kinds of packages may dates, figs, and raisins be purchased?
8. What is the price of the ordinary package of dates? Of figs? Read the label on the package to find weight of contents.
9. Give general directions for cooking dried fruits.
10. Plan a luncheon or supper in which date pudding might be used correctly as the dessert.

QUICK BREADS

All breads are divided into two classes, (1) quick breads and (2) yeast breads. Quick breads are made in a shorter time than is required for making yeast breads, and are generally served hot.

A quick bread requires the following ingredients: flour, a liquid, salt, and a leavening agent. To these may be added some other ingredients, not necessary but often desired, such as shortening, sweetening, flavoring, and eggs.

White, whole wheat, and Graham flours, and corn meal, are generally used in the making of quick breads. Other flours that can be used are corn, rice, rye, buckwheat, barley, and potato flours. Corn meal is used more extensively in the South than elsewhere in the United States. Since corn is a cereal it is a very valuable food; therefore corn meal and other corn products should be used in greater quantities than they are

in most families. There are two kinds of corn meal, (1) yellow, made from yellow corn, and (2) white, made from white corn. The flavor differs slightly.

The material added to any bread to make it "light" is called a leavening agent. The leavening agents commonly used are air, steam, baking powder, soda, and yeast; all except the last are the ones used in quick breads.

Air is added by beating eggs very light and folding them into the flour mixture, or by rapidly beating the flour mixture itself. The air expands when heated, causing the mixture to rise.

When the heat in the oven turns the water which is in the flour mixture into steam, further heat causes the steam to expand, and this causes the flour mixture to stretch, thus making it "rise." Pop-overs are a kind of quick bread made to rise with air and steam.

Baking powder is a compound made of baking soda, an acid substance, and a starchy material. The acid substance used varies with different baking powders. Some of the good baking powders are made by combining cream of tartar (the acid substance), baking soda, and starch. Whenever baking soda is put with an acid and moisture is added, carbon dioxide gas is formed. This is what happens when baking powder is put in a flour mixture, — the baking powder supplying the acid



STEAMED BROWN BREAD

and soda, while the moisture is supplied by the flour mixture. When heat is applied, this gas expands the flour mixture and causes it to rise.

Baking powder is used when sweet milk or water is the liquid used in the flour mixture.

It is never wise to buy cheap baking powder, for it is often poorly made and does not produce good results.

Baking soda is used with sour milk or buttermilk. The sour milk and buttermilk contain the acid needed to combine with the soda to form the carbon dioxide gas. Soda is often used when molasses is needed in the recipe, because some kinds of molasses contain a good deal of acid; but much molasses that is now sold is not very acid, and soda must be used with it carefully. Baking soda is difficult to use correctly with milk in cookery because the amount of acid present in the milk varies.

HOME PROBLEMS AND QUESTIONS

Make a list of the brands of baking powder that you have seen advertised or used. In what kind of container is baking powder sold? Why?



WELL SHAPED MUFFINS

What is the difference in price per pound when baking powder is bought in a one-pound container, one-half pound, and one-fourth pound?

Is corn meal sold by the pound or in the package?

Which is the more commonly used in this locality, white or yellow corn meal? Why?

Make a list of firms making flour which you have seen advertised. Is there a flour mill in the neighborhood? If so, perhaps the teacher can arrange to go through the flour mill with the girls. In that case, write down all the processes through which the wheat goes in becoming flour.

LABORATORY EXERCISES

QUICK BREADS

In all recipes sift the flour before measuring.

BAKING-POWDER BISCUITS

$\frac{2}{3}$ c. milk, or less	4 tsp. baking powder
2 c. flour	2 tbsp. fat
	$\frac{1}{2}$ tsp. salt

Add the salt and baking powder to the flour; sift again. Cut the fat into the flour, using two knives. Add enough liquid to make a soft dough, mixing quickly. Place on floured board, roll one half to three fourths inch in thickness, cut with biscuit-cutter, place on baking-sheet. Have oven hot when biscuits are put in (400° – 450° F.). Bake fifteen minutes.

MUFFINS

2 c. flour	2 tbsp. sugar
4 tsp. baking powder	1 c. milk
$\frac{1}{4}$ tsp. salt	2 tbsp. melted butter
	1 egg

Sift flour, baking powder, salt, and sugar together. Beat egg slightly, add milk. Stir the flour mixture into the liquid, add the melted butter. Place in greased muffin tins. Have oven moderately warm (350° – 400° F.) when muffins are put in. Bake about twenty minutes.

SOUTHERN SPOON CORN BREAD

2 c. white corn meal	2 eggs
$2\frac{1}{2}$ c. boiling water	$1\frac{1}{2}$ c. buttermilk
$1\frac{1}{2}$ tbsp. melted fat	1 tsp. soda
	$1\frac{1}{2}$ tsp. salt

Add corn meal gradually to boiling water and let stand until cool. Beat egg yolks slightly; add salt, buttermilk, and soda; mix immediately with corn meal. Beat two minutes, add the stiffly beaten egg-whites. Put in buttered baking-dish. Bake in a moderate oven (350° – 400° F.) forty-five minutes.

STEAMED BROWN BREAD

1 c. milk	1 c. corn meal
$\frac{1}{3}$ c. sorghum molasses	1 tsp. baking powder
$\frac{2}{3}$ c. Graham flour	$\frac{1}{3}$ c. raisins and currants mixed
	$\frac{2}{3}$ tsp. salt

Put together in the order given. Grease the insides of empty baking-powder cans and put in the mixture, filling the cans two thirds full. Cover the cans either with the can lid or by tying oil paper over the top. Steam one hour. Either a steamer or a kettle containing boiling water with a rack in the bottom may be used.

CAKE

Cake, well made and well baked, is not harmful if eaten slowly and not in too great quantity.

Children should not be allowed to eat large amounts of cake because it contains a good deal of sugar, and although sugar is a good food, yet when too much is eaten it may irritate the stomach and cause trouble in digestion. Then too, cake, like "new" bread, is so soft and tender that it is a temptation to swallow it without proper chewing. When too much cake is eaten it spoils the appetite for other more useful foods, such as milk and vegetables.

Cookies are best for little children because they are drier and require more chewing. Cake should be eaten at mealtime and not between meals.

All cakes may be placed in two classes: (1) those made without fat, such as sponge cake, and (2) those

made with fat, such as plain butter cakes. A plain cake recipe may be varied in a great many ways, thereby affording different kinds of cake. Some of the materials that may be added to change the taste and appearance are spices, flavoring extracts, fruits, nuts, and chocolate. Butter has been considered the only fat suitable to use in making cake, but with butter high in price, many have used other fats and found them very good. Some of these are oleomargarine, corn oil, cottonseed oil, and other vegetable fats.

Pastry flour is often used in cake-making and makes a tenderer cake than many bread flours. A bread flour made from soft wheat is better for use in cake than one made from hard wheat. If bread flour is to be used in making cakes, it may be made more like a pastry flour by adding cornstarch, in the proportion of 1 to 2 tablespoons of cornstarch to a cup of flour.

When too much sugar is used, it makes the cake more crumbly and the crust sticky and tough. Honey or syrup sometimes may be used in a cake in place of sugar.



BABY'S FIRST BIRTHDAY

SHE HAS A BIRTHDAY CAKE TO LOOK AT, BUT NOT TO EAT, WHILE SHE LOVES HER NEW DOLL

Baking powder, soda, eggs, and air are the leavening agents used in cakes.

Loaf and layer cakes are flour mixtures called thick batters, while cookies are called stiff doughs. A batter is a flour mixture that is stirred with a spoon. A dough is a mixture stiff enough to be kneaded and rolled.

Cakes and cookies should be kept in tight metal containers so that they will not dry out, and so that they will not absorb moisture.



A CAKE-MIXER

A LABOR-SAVING DEVICE WHEN MUCH CAKE IS MADE

HOME PROBLEMS AND QUESTIONS

The following proportions are those generally used for flour mixtures. The amount of flour cannot be stated accurately because different brands of flour will absorb different amounts of liquid.

To make a pour batter, use as much liquid as flour.

To make a drop batter, use two cups of flour to one cup of liquid.

To make a soft dough, use three cups of flour to one cup of liquid.

To make a stiff dough, use four cups of flour to one cup of liquid.

Study the flour mixtures you have made and decide to which class each belongs. When would this information about flour mixtures be of value to you?

What brands of pastry flour are sold in the local stores? Is the pastry flour sold by the pound or in packages? Compare the price of bread flour and pastry flour.

What brands of bread flour are made by the Northwestern flour mills? Are any bread flours made by the mills in your locality? Is it a wise plan to use these local flours? Why?

Have each student bring to class one cake recipe which is known to be accurate. To which class of cakes does each belong? These recipes may be copied on cards by each member of the class to put into her card-file cook book.

LABORATORY EXERCISES

CAKE-MAKING

Cakes made with fat: The following method is generally used in making cakes with fat:

1. Measure all ingredients.
2. Grease the cake-pans.
3. Cream the fat by rubbing and beating with a wooden spoon.
4. Add sugar gradually, beating the mixture until it is of a creamy consistency.
5. Beat yolk of eggs until it is thick and lemon-colored. Add to butter and sugar.
6. Add the baking powder to part of the flour.
7. Add the rest of the flour and milk alternately to the egg and sugar mixture.
8. Add vanilla and baking powder.
9. Beat egg-whites very stiff and fold into mixture.
10. Half fill greased pans. Bake (350° – 400° F. for layer cake, 300° – 350° F. for loaf cake).
11. Fruit or nuts should be mixed with a little of the flour and added just before the egg-whites.

STANDARD CAKE

$\frac{1}{4}$ c. butter	$\frac{1}{2}$ c. milk
1 c. sugar	$1\frac{1}{2}$ c. flour
2 eggs	$2\frac{1}{2}$ tsp. baking powder
	$\frac{1}{2}$ tsp. vanilla

This cake recipe may be varied by adding to it one cup of chopped nuts; or one tablespoon of spice; or two ounces of melted chocolate; or one-half cup of currants.

Cakes made without fat. The following is the method used in making cakes without fat:

1. Sift flour and sugar several times before measuring.
2. Beat yolks of eggs until the mass is thick and lemon-colored.
3. Add sugar gradually, beating with Dover egg-beater.
4. Add lemon juice or other flavoring.
5. Beat egg-whites until very stiff.
6. Partially fold egg-white into sugar and egg mixture.
7. Remove egg-beater; use spatula, and fold in flour and salt very carefully.
8. Bake in a tube cake-pan, unbuttered.
9. Bake forty to sixty minutes at 300°–400° F.
10. Do not open oven door for first twenty minutes.
11. After removing cake from oven, invert pan on cake-rack, but do not remove cake until cold.

SPONGE CAKE

6 eggs	Grated rind of $\frac{1}{2}$ lemon
1 c. sugar	1 c. flour
1 tbsp. lemon juice	$\frac{1}{4}$ tsp. salt

BOILED FROSTING

1 c. sugar	$\frac{1}{2}$ c. water
1 tsp. flavoring	1 egg-white

Mix sugar with water and boil until it "spins a thread" (232° F. on the thermometer). Beat egg-white stiff; over this pour the syrup slowly, beating all the time until it first begins to stiffen. Add flavoring and spread over cooled cake.

REVIEW QUESTIONS

1. What is a "leavening agent"?
2. Name the leavening agents used in quick breads. In cakes; in yeast bread.
3. What leavening agent is used with sweet milk? With sour milk? With molasses?
4. Explain the action of baking powder in a flour mixture.
5. Explain the action of soda in a flour mixture.
6. What is the leavening agent used in sponge cake? Explain the action.
7. Into what two classes may cakes be divided? Give examples under each class.
8. Give the proportions of ingredients used in a standard cake.
9. How may this be varied?
10. Give the general rules for making a cake with butter; without butter.
11. Give directions and proportions for baking-powder biscuits.
12. What kind of flour may be used in cakes?
13. Define the terms "dough" and "batter."
14. When and how should cake be eaten?
15. Why are cookies best for little children?

THE SCHOOL LUNCH

Many children must eat their lunch at school, and it is very important that they shall eat the right foods — foods which are easily digested, which are clean, and which furnish the foodstuffs needed. The lunches eaten by school children (1) may be purchased in the school lunchroom, (2) may be brought in part from home, perhaps helped out by a hot dish provided at school, (3) may be brought entirely from home, (4) may be bought in cafeterias or lunchrooms not managed by the school, or (5) may be purchased at a grocery or other food store, and eaten from paper bags or boxes.

Lunchrooms are usually found in the larger schools or high schools, and the child who attends such a school can have hot food each day for lunch. Many times the

lunch chosen is not properly selected and does not furnish the food value needed. In selecting a lunch, choose one main dish, such as a cream soup, or a cheese dish, or eggs creamed on toast, baked, or in salad ; or a salad, such as salmon or tuna-fish salad, potato, bean, or pea salad, or meat salad, or a meat stew. With this main dish, bread and butter or sandwiches or crackers and butter may be eaten. If a cream soup is not selected, milk should be included in the menu. Occasionally cocoa made with milk may be substituted for the milk. Something sweet is usually desirable to finish a lunch, such as custard or a simple pudding, dried or fresh fruits, plain cake or cookies, and occasionally a piece or two of candy. The following are suggested combinations to select for the school lunch. You can make other menus as good.

1. Cream of potato soup, fruit salad, nut-bread sandwiches, dates.
2. Creamed eggs on toast, apple sauce, cake, milk.
3. Meat stew, bread and butter, milk, orange.
4. Potato salad, minced-ham sandwich, milk, stewed apricots.
5. Salmon salad, rolls with butter, milk, caramel custard.

When part of the lunch is brought from home to be eaten with a hot dish provided at school, such foods as sandwiches, plain cake or cookies, fruits, custard, or simple puddings may be brought, since the school will probably provide hot cream soups, cocoa, or stews. Such luncheons are usually served in rural schools where there is no lunchroom. The hot dish is sometimes prepared by the girls in the Foods class, the class being divided into groups and a different group doing the work each day. The materials may be paid for out of school

funds and the hot dish furnished free to the children, or the children may pay for the food. In some schools the children bring from home the foods that are to be cooked, each child furnishing his share during the year. In other localities the mothers send from home a hot soup, cocoa, or stew in a fireless cooker. Every one



A MODERN CAFETERIA

likes something hot for lunch on a cold day, and the lunch with one hot dish is preferable to a cold lunch.

When all of the lunch must be brought from home, it must be planned carefully; the menu must be varied each day, the lunch must be packed correctly in the right kind of container, and the food must be eaten at school in an orderly manner.

The same rules for selecting the lunch in the school lunchroom should be followed in selecting one in a restaurant or cafeteria not operated by the school. In a cafeteria of this kind, one may have a greater variety

of foods from which to select, and it may be more difficult to choose the proper foods from such a variety. It is especially important that foods be kept in a sanitary manner in such a place, and that they be cooked well and served neatly.

Buying foods from stores and eating from paper bags or boxes is a poor plan for a school lunch, because it is not possible to get the best kinds of food for a lunch, nor is it always possible to get clean foods, and eating from a paper bag may make one careless about table manners.

QUANTITY COOKERY¹

APPROXIMATE AMOUNT OF FOOD NEEDED TO SERVE FIFTY PEOPLE

MATERIAL	AMOUNT
Beans for baking	3 quarts or 6 pounds
Beef, roast	20 pounds
Beef, round steak cut $\frac{3}{4}$ " thick for Swiss steak	20 pounds
Beef, ground for meat loaf	10 pounds
Biscuits, flour as a basis	3 quarts
Bread — 1 pound loaves	5
Butter	1 to $1\frac{1}{4}$ pounds
Cabbage, creamed with 3 qts. medium white sauce	10 pounds
Carrots, creamed with 3 qts. medium white sauce	12 pounds
Chicken, roast	25 pounds
Cocoa — $\frac{1}{2}$ gallon water 2 gallons milk	3 cups or $\frac{3}{4}$ pound
Coffee — $2\frac{1}{2}$ gallons water	5 cups ground coffee, usually 1 pound
Cream for coffee	1 quart
Cream to be whipped	$1\frac{1}{2}$ pints
Ice cream, bulk, large servings	2 gallons
Ice cream, brick	5 bricks to gallon. $1\frac{2}{3}$ gallons
Lettuce, head for garnish	2 to 4 pounds

¹ Compiled by Edith Gamble, Professor of Institution Management, Purdue University, LaFayette, Indiana.

MATERIAL

AMOUNT

Lettuce, head for salad	7 pounds
Peas	2 No. 10 cans or 10 No. 2 cans
Punch — 1 quart lemon juice	1½ dozen small lemons
1 quart orange juice	1 dozen oranges, medium
2 quarts sugar	
2 gallons water	
Potatoes, mashed	1¼ pecks
Potatoes, creamed with 3½ to 4 quarts medium white sauce	¾ peck
Salad dressing, garnish	1 quart
Spinach	2 No. 10 cans or 10 No. 2 cans
Salad, fruit or vegetable	7 quarts
Sandwiches :	
Bread, 1 pound loaf	2
Cheese, cottage, as basis	4 pounds
Eggs, as basis	2 dozen
Fruit, dried, as basis	2 pounds
Ham, as basis	3 pounds
Soup	3 gallons
Veal or pork, creamed with 3 quarts medium thick white sauce	12 pounds, uncooked

RECIPES FOR FIFTY

The following recipes may be used in preparing the one hot dish at school. Each recipe will serve fifty.

COCOA

1½ c. cocoa	8 qts. milk
2 c. sugar or syrup	1 qt. boiling water
1 pt. water	

Mix cocoa with pint of cold water until smooth ; add boiling water and boil twenty to thirty minutes, stirring occasionally. Add sugar to hot milk in double-boiler, and pour cocoa mixture into this. Beat with Dover egg-beater until froth forms on surface.

CREAM SOUP — POTATO

8 lbs. potatoes or	10 qts. scalded milk
24 medium size potatoes	2 c. fat
4 medium onions	1½ c. flour
2 qts. boiling water	6 tbsp. salt
Parsley	½ tsp. cayenne

Make a white sauce of scalded milk, fat, flour, and salt; add to this the cooked, diced, or mashed potatoes and onion. Season, serve hot.



BUSY COOKS IN A RURAL SCHOOL

PERHAPS THEY ARE PREPARING THE NOON LUNCH

CREAMED EGGS

3 doz. hard-cooked eggs

3 qts. white sauce

Slice eggs, place in warm dishes, and pour hot white sauce over them.

WHITE SAUCE (3 QUARTS)

$\frac{3}{4}$ c. fat

3 qts. whole milk

1 c. flour

1 tbsp. salt

Pepper

Place fat in double-boiler; when melted, stir in flour, making a smooth paste. Add one quart of milk slowly, stirring constantly to make smooth. When the mixture

begins to thicken, add the rest of the milk. Add salt and pepper. Cook thirty minutes in double-boiler. This recipe may also be used for vegetables or meats.

VEGETABLE SOUP WITHOUT STOCK

1 qt. carrot	6 onions
1 qt. turnip	12 qts. water
1½ qts. celery	3 c. butter
4½ qts. potato	6 tbsp. finely chopped parsley
Salt and pepper	

Wash and pare carrots and turnips; cut in strips one inch long and one-fourth inch wide, or put through meat-grinder. Wash, pare, and cut potatoes in small pieces. Cut onion in thin slices and celery in quarter-inch pieces. Measure vegetables after cutting; mix all except potatoes, and cook ten minutes in butter, stirring constantly. Turn into soup kettle, add potatoes and water; cook one hour. Season to taste with salt and pepper, add parsley, and serve at once, boiling hot.

SPANISH RICE

5 c. rice	1 sweet red pepper
1¼ lbs. salt pork	2 small green peppers
2 medium onions	2 qts. strained tomato, or
Salt to taste	part stock

Wash rice in cold water until water is clear. Add rice slowly to ten quarts boiling water; parboil ten minutes; drain.

Chop salt pork, cook in oven in frying-pan until fat is fried out, but do not let it get brown. Add chopped onion and seeded and chopped peppers, and fry for a few minutes, or till slightly yellowed. Put all ingredients into double-boiler, add strained tomato, and cook thirty minutes, or until rice is soft, but not mushy.

MACARONI WITH CHEESE

2 qts. macaroni broken	4 tsp. salt
in pieces	½ tsp. paprika
1½ c. butter	4 qts. milk
1½ c. flour	6 c. chopped cheese

Place macaroni in boiling salted water and cook until tender. Make a white sauce of the butter, flour, milk, and seasonings, following directions for white sauces. Dissolve chopped or grated cheese in sauce. Put macaroni in baking dishes, pour over the sauce, lifting macaroni with fork to distribute it evenly. Cover with thin layer of buttered crumbs, using three cups stale crumbs and one-half cup butter. Do not use dried crumbs. Bake until crumbs are brown.

BOSTON BAKED BEANS

3 qts. pea beans	$\frac{1}{4}$ c. brown sugar
4 tbsp. salt	1 tbsp. mustard
1 c. molasses	1 tsp. pepper
$\frac{1}{4}$ c. vinegar	2 lbs. fat salt pork

Pick over beans, cover with cold water, and soak overnight. Drain, cover with cold water, add one teaspoon soda, bring to boiling-point, and parboil fifteen minutes, or until skins burst when exposed to air; drain.

Scrape and scald pork rind, cut pork in two pieces, and cut through rind every half-inch to the depth of one inch.

Mix salt, sugar, mustard, and pepper, and dilute with molasses and vinegar. Put an equal quantity of beans and seasonings into each of two bean pots, bury pork in beans, fill pots with boiling water, cover, and cook slowly six or eight hours, or more, adding more water if needed.

LABORATORY EXERCISES

WHOLE WHEAT OR GRAHAM BREAD

Make like yeast bread (see Bread), except that one half or more of the white flour is replaced with Graham or whole-wheat flour; and, instead of using sugar, use twice as much molasses or brown sugar.

Variations in the bread may be made by adding $1\frac{1}{2}$ cup of chopped walnuts or pecans, or by adding one cup of chopped, floured raisins. Why must the raisins be floured? Why is

it better to chop the nuts than to put them through the meat-grinder?

SUGAR COOKIES

$\frac{1}{4}$ c. butter	1 egg
$\frac{1}{2}$ c. sugar	1 tsp. baking powder
2 tbsp. milk	1 c. flour

Cream together the butter and sugar; add the unbeaten egg and beat thoroughly. Add the milk and the flavoring.



COOKIES ARE GOOD FOR THE SCHOOL LUNCH

Add the flour a little at a time, beating and mixing thoroughly. Add the baking powder with the last part of the flour. Sprinkle a bread-board with a little flour; place dough on board and roll out to one-quarter inch in thickness; cut with the cookie cutter. Place on a baking-sheet and bake in a hot oven (350° – 450° F.).

DATE CAKES

1 lb. dates	$2\frac{1}{2}$ c. rolled oats
1 c. brown sugar	$2\frac{1}{2}$ c. flour
1 c. water	1 c. granulated sugar
1 c. fat	$\frac{1}{4}$ tsp. salt

Wash, seed, and chop dates; add brown sugar and one half the water; cook in double boiler until a paste is formed. Cream fat and granulated sugar together. Add the salt. Add remainder of water, flour, and rolled oats, alternately. Place a little of the mixture on the bread-board. Roll very thin. Over the top of half the dough spread some of the date paste; fold the other half of the dough over this; press together gently. Cut with sharp knife into rectangular pieces, any size desired. Place on baking-sheets and bake in a moderate oven (350°–400° F.) twenty to thirty minutes. Never try to roll more than a small portion of the dough at a time, because it is difficult to fold over a large amount.

BAKED CUSTARD

1 pt. milk	2 eggs
2 tbsp. sugar	$\frac{1}{2}$ tsp. vanilla
$\frac{1}{8}$ tsp. salt	

Scald the milk, sugar, and salt together. Beat the eggs slightly, pour the scalded milk over them gradually; add vanilla, stir well. Pour into cups or ramekins. Set in pan of warm water; bake in a slow oven (250°–350° F.) until a knife thrust through the middle of the custard will come out clean.

SANDWICHES

Breads good to use for sandwiches are white yeast bread, whole wheat bread, brown bread, nut bread, and raisin bread. The butter used should be creamed by stirring and beating with a spoon until it is creamy instead of solid. A spatula is best to use for spreading butter on the bread. The slices of bread coming together in the loaf should be put together in the sandwich so that they "fit."

Sandwiches for the lunch may be varied in three ways: (1) by using different kinds of bread; (2) by using different kinds of filling; (3) by cutting the bread into different shapes.

The following are some good sandwich fillings. Perhaps some of the members of the class can suggest others.

1. Date paste, made of chopped dates and a little water, cooked together until a paste is formed. Lemon juice and chopped nuts may be added.
2. Jelly, jam, or marmalade.
3. Cottage cheese with pimienta or nuts.
4. Lettuce with salad dressing.
5. Hard-cooked eggs, put through vegetable-ricer and seasoned. Minced ham or salad dressing may be added.



RAISIN BREAD

FROM WHICH VERY GOOD SANDWICHES CAN BE MADE

6. "Left-over" meat, chopped and seasoned, or mixed with salad dressing.
7. Cooked dried beans, put through a colander and mixed with cream, or salad dressing and chopped pickle.
8. Pea pulp with grated cheese and nuts.

NUT BREAD

1 c. brown flour	$\frac{1}{2}$ c. chopped nut meats
1 c. white flour	2 tsp. baking powder
1 c. sweet milk	$\frac{1}{2}$ tsp. salt
$\frac{1}{2}$ c. sugar	$\frac{1}{2}$ egg

Mix a little of the flour with the nuts ; mix a little with the baking powder. Beat the egg, add the sugar and salt. Add the sweet milk and flour alternately ; then the nuts and baking powder. Pour into greased bread-pan. Let rise twenty minutes. Bake one hour in a moderate oven (300°-400° F.).

PACKING THE SCHOOL LUNCH

A school lunch may be planned correctly and the foods may be well cooked, but the lunch is not attractive unless it is well packed. Making the lunch attractive makes it pleasanter to eat. If children are not very hungry, they usually will not eat mussy foods, especially those that they do not like particularly well.

When possible, the daughter should help her mother in preparing her school lunch or the lunches for her brothers and sisters.

The receptacle in which the lunch is packed is very important if the lunch is to keep in good condition. Tin buckets or tin boxes are best. Lunch-boxes with a thermos bottle slipped in the top may be purchased, but they are expensive. Some tin lunch-boxes fold when empty.

Pasteboard boxes are not good because they cannot be thoroughly cleaned. Newspapers should not be used for wrapping lunches ; if paper must be used, choose clean wrapping-paper.

Baskets may be used, because they are light to carry. Baskets must be washed and aired in the sun every few days to keep them in a sanitary condition.

Oiled or waxed paper should be used for separately wrapping sandwiches, cakes, and other foods to go in the lunch. This paper can be purchased at little cost and keeps the food in better condition. Covered glasses should be used for custards and similar foods.

Every child should have a drinking-cup and plate.

These may be of enamelware and often are decorated with pretty designs in color. Either paper napkins or napkins made of such materials as Japanese toweling or cotton crêpe may be used. There should always be one napkin to use as a cover for the desk and one for wiping the fingers. The silverware needed for eating the lunch should also be put in the lunch-box.



A TIN LUNCH-BOX WITH A THERMOS BOTTLE, OIL-PAPER, PAPER NAPKINS, DRINKING CUP AND COVERED GLASS IN WHICH TO CARRY CUSTARD OR SIMILAR FOODS

In packing the lunch, place the articles in the box in such a manner that they will jar as little as possible, with the heavier things at the bottom. The napkins should be on top of the lunch, so that the one to be used as a tablecloth can be placed before unpacking the lunch. A lunch-box should have a handle, so that it may be carried right side up when packed. In very cold weather the inside of the lunch-box may be lined with several thicknesses of wrapping-paper to protect the lunch from freezing.

When lunch time comes, the hands and face should be washed, each one using his or her own soap and towel. Paper towels and liquid soap may be provided in the rest-room.

The dishes should be removed from the lunch-box and placed in an orderly way on the napkin spread over the top of the desk or on the table provided for that purpose. Eat the lunch slowly, using good table manners. After finishing the lunch, pupils should put the room in good order.

LABORATORY EXERCISES

Obtain several good containers and other equipment necessary for packing lunches. Divide the class into groups, and have each group prepare foods suitable to use in the school lunch.

Pack the following lunches :

- (1) Nut-bread-and-butter sandwich
 Cream soup (in thermos bottle)
 Lettuce sandwich
 One orange
 Date cookies (two)
- (2) Milk
 Egg sandwiches (two)
 Jelly sandwich
 Baked apple
- (3) Bread and butter sandwiches (two), cut in triangular shape
 Nut-bread and butter sandwich
 Custard
 Dates, raisins, or figs

Plan some lunches in which cocoa, or soup, or meat stew is served at school and the rest of the lunch is brought in the lunch-box.

REVIEW QUESTIONS

1. What kind of lunch-boxes should be used? Why?
2. Name the other equipment needed for packing a lunch well.

3. What is the price of oiled paper? Where can it be obtained in this locality?

4. How should the school lunch be served?

5. What rules should be followed when eating the lunch?

6. How should good sandwiches be made?

7. Should the daughter in the house help prepare the lunch for school?

8. What foods should be prepared in sufficient quantity for several lunches, to be used on different days?

9. Name five methods by which children obtain school lunches. Which methods are considered good? Which poor? Why?

10. What are the requirements for a good school lunch?

11. Make several menus for good school lunches: (a) selected from the school cafeteria counter; (b) brought from home; (c) with one hot dish served at school.

12. If your father works out-of-doors, and carries his lunch, make a menu suitable for him to eat on a winter day; a summer day. If he works in an office, should the lunch be of a different type? Why?

MEALS OUT-OF-DOORS

Most boys and girls like to go on picnics. A picnic lunch may consist entirely of cooked foods that are ready to serve, or part of the foods may be prepared at home and others cooked over a camp fire on the beach, in the woods, or wherever the picnic is to be held.

When all the foods are to be prepared at home, they must be carried in suitable containers, so that they will be in good condition when it is time to serve them. Thermos bottles or jugs may be used for carrying hot cocoa, milk, water, or any other cold or hot drink, and bottles having a large mouth may be used for hot or cold foods. One may use a picnic basket equipped with knives, forks, spoons, plates, cups, and containers for various types of food. In some of these baskets there are compartments for ice, so arranged that foods may be kept cold. These baskets are quite elaborate, ex-

pensive, and heavy to carry, and often thermos bottles or jugs can be used for foods which must be kept hot or cold, while other foods may be packed as you would pack a school lunch.



TOURISTS, CAMPING IN THE MOUNTAINS, HAVING A MEAL OUT-OF-DOORS
WITH CAMPING EQUIPMENT

When going on a tramp, if a lunch is needed, one cannot carry heavy containers filled with food. Often such a lunch will consist of sandwiches wrapped in waxed paper, and perhaps oranges or other juicy fruits when it is not practical to carry even a small thermos

bottle. When tramping or going on a picnic, one should be very careful about drinking water. Water from running streams, ponds, or lakes is not safe to drink without boiling; even water from some springs is not pure, and often water from a dug well is not safe for drinking. It is always safer to carry from home the water used for drinking purposes when this is possible, unless one knows that the water supply is pure. When this cannot be done, and one is not sure about the purity of the water, eating juicy fruits will usually quench the thirst, and eating them instead of drinking water is the safer plan.

Aluminum or enamelware plates and cups may be used for picnics. Paper plates and cups to be used for cold drinks may be burned or otherwise disposed of after the picnic lunch is eaten, thus making unnecessary the carrying home of dishes. "Luncheon sets" are sold in packages containing a paper tablecloth and napkins, paper plates, paper cups, and sometimes paper spoons and forks.

Such foods as meats for broiling, potatoes for baking, green corn for roasting, bread and marshmallows for toasting, or foods canned in tins, such as baked beans, for heating in the fire, may be included in a picnic menu. Camp fires may be made and the cooking done over them, or one may use a gasoline or alcohol stove designed for the purpose. A camp fire is preferable for a picnic, but on longer trips, when meals for several days must be prepared, it may be desirable to use a stove.

In cooking with a camp fire several methods may be used. A grill made of heavy wire may be placed over the fire, and the frying-pan, pot, or pail may be placed on this for heating. The best cooking can be done over hot coals. Perhaps you would rather broil your

meat by putting it on a long stick or wire and holding it over the coals, turning often until done. Marshmallows or bread may be toasted in the same way.



COOKING OVER A CAMP FIRE IN WISCONSIN

THE COFFEE POT IS ON A HOT STONE HEATED BY THE FIRE AT THE SIDE;
THE FRYING-PAN IS ALSO RESTING ON STONES

Or you may heat stones by burying them in the hot coals, removing from the fire when hot, and broil steak, chops, or bacon and make toast on them. After heat-

ing the stones, wipe one side with paper and grease the stone with fat; then the surface will be ready to use for cooking. Potatoes may be wrapped in several thicknesses of wet paper, then buried in the hot ashes, over which hot coals are placed until the potatoes are done. In preparing green corn for roasting, pull back the husks at the end and remove the silk, dip the corn in water, replace the husk and tie into place, bury in hot ashes, cover with hot coals. Before placing a tin can of baked beans or other foods in the coals to heat, pierce a small hole in the top of the can, since the steam which will be formed in the can must have a way to escape or there will be an explosion. "Clam bakes" and "fish fries" are popular along the seacoast. Clams are baked by burying them in sand on top of which a fire is built. Fish may be covered with clay and placed in the coals to cook, or may be sautéed in a frying-pan over the fire.

In planning a picnic it is important:

1. To plan a menu which requires few dishes for serving, and which does not contain cooked foods that are spoiled with standing or jarring.
2. To make a list of all utensils and dishes and of the amounts and kinds of foods needed, so that none will be forgotten.
3. To pack these so that foods will not be crushed or exposed to dust or flies, so that dishes will be kept free from dust and flies, and so that thermos bottles or other glass or china containers will not be broken.
4. To pack the lunch in such containers as can be conveniently carried or placed in the available space in an automobile. It is better to pack the lunch in several light-weight baskets or boxes when it must be carried some distance by hand.

5. To take several tea towels, hand towels, and cloths to be used for emergencies, or when clearing up after the meal.

After the picnic lunch has been finished, all papers, paper plates, or paper cups should be burned or buried; tin cans should be buried or thrown where they will not be seen; and the fire must be put out with water or by covering with earth, sand, or clay. Forest fires are often started from camp fires that are left smouldering. Because so many people are careless about clearing up the rubbish from a picnic, putting out fires, and closing gates to fields where stock may be in pasture, many delightful places have been closed to picnickers and tourists.

To plan and prepare a picnic lunch for a number of people requires considerable work, and many times picnics are not a popular pastime because of this fact. An easy way to arrange a picnic is to make the menu, estimating the amount of each food needed, then to assign to each person a certain amount of one food to be prepared. Each person may then take her own dishes and the one prepared food, and the work of preparation is not difficult. Often the menu for a picnic is too elaborate and makes the work of preparation too difficult. Since touring has become such an important pastime in this country, it is desirable for each girl to know how to plan and prepare a picnic lunch, and to cook out-of-doors. Elaborate camping equipment can be purchased, but this is expensive, and as good times can be had with less equipment, preparing easily cooked foods and menus that are very simple.

HOME PROBLEMS AND QUESTIONS

Plan a menu which would be suitable for the Foods class to use for a picnic: (1) when all the foods are

cooked in the laboratory; (2) when part of the foods will be prepared out-of-doors. Estimate the amount of each food needed. Make a list of the dishes and other equipment needed in cooking or serving the lunch. Discuss methods of packing the lunch.

Plan several lunches that might be carried by Girl Scouts going on a hike; by Boy Scouts.

If you were going on a camping trip where it would not be possible to buy fresh meats, fruits, and vegetables more than once a week, plan menus that could be served for a week. Make a list of the foods needed for the week for four people.

What kind of clothes are preferable to wear on a picnic? Why? If clothing catches fire, how should the fire be extinguished.

What other foods than those mentioned have you seen cooked out of doors?

If you were entertaining a guest in your home, what sort of outdoor parties, other than a picnic, could you arrange for her entertainment if you lived on a farm?

Perhaps the Foods class can go on a picnic some Saturday and practice building fires and cooking.

LABORATORY EXERCISES

SERVE A LUNCHEON OR SUPPER

Suggested Menu : Cheese strata
Lettuce sandwiches
Dried peaches
Sponge cake

Estimate the cost of the meal.

Serve several luncheons or suppers, if there is time in the course.

THE CARE OF THE BABY

Perhaps you have a baby brother or sister or a baby cousin, or perhaps there is a baby at a neighbor's house that you can help to care for, thus assisting your mother, your aunt, or the neighbor. If babies are to be well, they must be cared for correctly, and it is the duty of every one to learn the essential rules. On those who care for a baby rests a big responsibility.

Everything around the baby should be very clean. The nursery or the room in which the baby sleeps must have good ventilation; it must have walls and floors which can be easily cleaned, and the furnishings must be of plain design, and of materials that can be kept clean. A baby basket, perhaps made from a clothes basket, may be the place in which the baby sleeps when small. Later he should have an enameled iron bed with high sides, which can be lowered. A baby should never sleep with an older person, but should always sleep alone. In mild weather the baby may take his naps in the baby carriage, on the porch or in the yard. If the porch is not screened or if the carriage is placed in the yard, it must be covered with mosquito netting to protect the baby from flies. A baby's bed should never be put where there is a draft from windows, doors, or an electric fan, but the windows must always be kept wide open when the baby is asleep. There should be plenty of sheets, so that the bed can be kept very clean. The mattress should be protected with rubber sheeting. Cotton or wool blankets may be used to keep baby warm.

A baby should go to sleep without attention; he should not be rocked or sung to sleep. If he is accustomed to this when a tiny baby, the mother will be saved much trouble later. The baby should take his

naps at regular times and should sleep a good many hours each day :

Baby 2 or 3 months old	18 to 20 hours out of 24
Baby 6 months old	15 to 16 hours out of 24
Baby 1 year old	14 to 15 hours out of 24
Baby 2 years old	13 to 14 hours out of 24

A baby's clothing should be comfortable. Baby clothes are now very simple in design, with no elaborate trimmings of lace or embroidery. The following is a list of the clothing needed in a layette :

- 6 slips — of lawn, nainsook, or dimity, made kimono-style and 26 inches long
- 1 dress — sheer material, perhaps decorated with a little handwork
- 3 flannel petticoats — of good grade of flannel, made princess style
- 3 shirts — of silk and wool or of cotton and wool fabric, second size
- 4 dozen diapers — made of 18-inch bird's-eye cotton or outing flannel, hemmed
- 3 pairs stockings — merino
- 3 kimonos — of wool challis, albatross, or similar fabric, made wrapper-style
- 3 nightgowns — of outing flannel, or ready-made of knitted material, made wrapper-style
- 3 night petticoats — of outing flannel, made princess-style
- 1 sleeping bag — of double-faced eiderdown, made with hood and broad square shoulders

Clothing should be kept very clean. Baby clothes should never be starched, because the starch makes the materials stiff so that they scratch the baby's skin. All flannel garments should be washed carefully, so that

they will not shrink or become harsh in texture. They may be dried on wooden forms made for the purpose (see section on Healthful Clothing). A wet diaper should never be dried and used again, because it may be the cause of chafing the baby's body. Diapers should be washed thoroughly in hot soapsuds, boiled, rinsed several times in clear water, and dried in the sun ;



"A BASKETFUL OF BABY"

THE CHEAP MARKET-BASKET MAKES A CONVENIENT BED FOR A LITTLE BABY AND CAN ALSO BE USED IN CARRYING THE BABY ABOUT

they do not need ironing. A baby should be taught not to wet or soil his diapers. After he is a few weeks old he should be placed on a small chamber every two or three hours, and he can soon be taught the habit of cleanliness.

A baby should be bathed regularly every day, giving him a sponge bath for the first few weeks ; a tub bath may be given him after he is a few weeks old. In cold weather it is particularly necessary that the room in which the bath is given be very warm. Having the tub at table height makes the giving of the baby's bath much easier. A bathing and dressing table should be

large enough to furnish space for the tub and the bathing pad, and should have drawers to hold the dressing basket and clothing. The following directions are important to remember when caring for a baby :

1. Feed and bathe the baby at regular times.
2. Put him to sleep at regular times in a well-ventilated room or on a porch.
3. Change his diapers as soon as they are wet.
4. Never take a baby under three months of age outdoors in severe weather.
5. Adjust the clothing to suit the weather conditions. Often babies are cross because they are too hot in warm weather.
6. Always protect the baby's eyes from strong light. The bed should be placed so that the baby does not face the light.
7. Avoid excitement. Never frighten a child. Never take a baby into a crowd, to a theatre or to similar places. Never tickle, toss, or bounce a baby. Avoid loud, harsh noises. Keep the baby quiet.
8. Always handle a baby very carefully. Support the head and back of a little baby when you lift him. Never lift a child by the arms or drag a small child by the arm.
9. See that the baby has at least one bowel movement every day.
10. Consult the doctor immediately if the baby is not well. Do not give him medicine unless prescribed by the doctor.
11. Never kiss a baby on the mouth, but rather on the head or back of the neck.
12. Never take the baby where there are sick people.
13. Baby's toys should be of a kind which can be cleaned easily, from which he cannot suck the

paint, and which have no sharp edges or points to hurt him. Do not allow him to suck a "pacifier", since this is apt to spoil the shape of his mouth. A baby should not be permitted to suck his thumb for the same reason. Bags, which have been thoroughly washed, may be sewed to the ends of sleeves to break the habit.

14. Do not encourage the baby to stand until his legs are strong. Why?
15. Weigh the baby once a week, to be sure that he is gaining the correct amount in weight.
16. Wash your hands before doing anything for the baby; this guards against disease.

HOME PROBLEMS AND QUESTIONS

Perhaps a nurse can talk to the girls about the care of a baby, giving a demonstration on bathing a baby, how to lift and hold a baby, and on other points connected with its care.

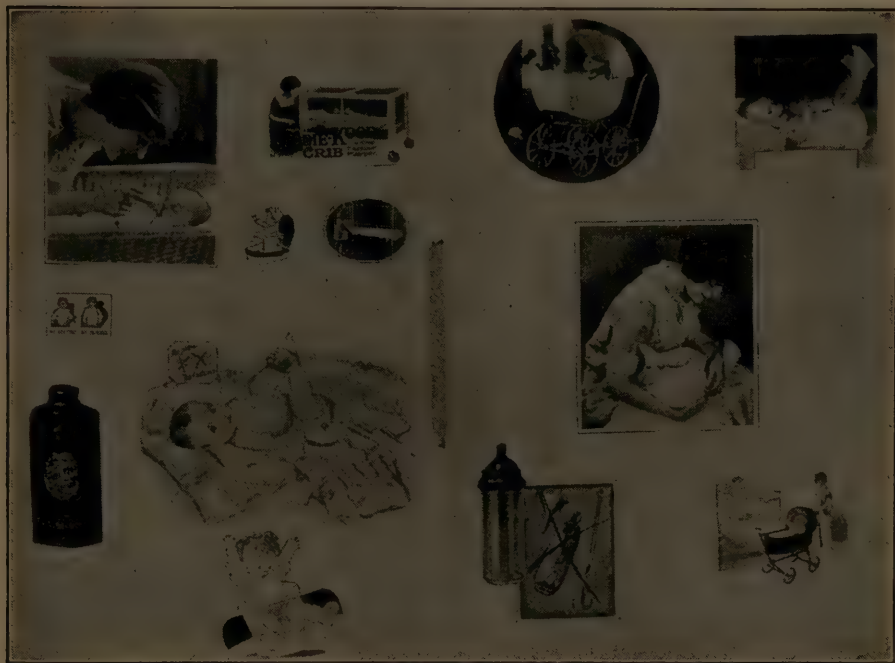
Have you ever made a slip or petticoat for a baby? Ask the sewing teacher about the kinds of seams and finishes which should be used on such a garment. Perhaps the class can make baby clothing for some needy mother about whom the public health nurse knows.

Collect pictures of equipment you have seen advertised to be used in caring for a baby. Perhaps you can find pictures of nurseries furnished in attractive ways. Discuss these in class. Make a booklet on "The Care of Children", and in this place pictures and suggestions for the care of a baby or small child.

REVIEW QUESTIONS

1. How many hours out of the twenty-four should a baby one year old sleep? A baby two years old?
2. Why should a baby sleep alone when possible?

3. Why is it necessary to support the back and head when lifting a little baby?
4. How may one tell when a baby is not well?
5. Why should one never kiss a baby on the mouth?
6. Why is it necessary to feed a baby very carefully? What may be the results of careless feeding?
7. Make a schedule for the care of a baby six months old.



A PAGE FROM THE BOOKLET ON "THE CARE OF CHILDREN"

THE BABY'S FOOD

The best food for a baby is its mother's milk, since this has in it the foodstuffs and vitamins that the baby needs. When possible, the baby should be fed entirely on the mother's milk until it is nine months old and partially for the next three months. When the mother cannot nurse her baby, other milk must be used, the milk from the cow or goat being the cheapest and best. We call this "artificial feeding", and the important

thing is to have pure, fresh milk for this purpose. Certified milk or milk of Grade A can be bought in cities and is the safest milk to buy from a dairy. Milk for feeding babies should always be bought in bottles and should be from healthy cows, "tuberculin tested" — which means that the cows do not have tuberculosis, a disease that can be carried by milk. Milk should be kept at a temperature of about 50° F., preferably in an ice-box or in an iceless refrigerator, or it may be set in running water in warm weather. Cow's milk will need to be "modified" or changed, usually, by the addition of sugar and sterile (boiled) water, or cereal water made from oatmeal or barley. A physician should be consulted and his directions followed in modifying milk.

Nursing bottles are of two general types: one has a small neck, and the other is a straight bottle without a neck. Both are round, with no corners in which stale milk may collect. Either type may be used, but the straight bottle is recommended when the baby will nurse from it. The nipple should have a hole small enough so that the milk drops through it rapidly; it is too large if the milk runs through in a stream. It is more convenient to have enough bottles and nipples so that there can be one for each feeding during the day, thereby making it possible to sterilize and fill all the bottles at one time. A bottle and nipple should be used only once after sterilizing. After a bottle has been used, rinse it thoroughly with cold water, then fill it with water to which has been added a little soda or borax, and let it stand until all the bottles are prepared for the next day. The nipples should be rinsed and placed in a glass jar filled with a borax solution.

To prepare the bottles for the milk, wash them in hot soapsuds, using a bottle brush, and rinse in clear hot water. Place the bottles in a pail or kettle of warm

water, in the bottom of which is a wooden rack or cloth to keep them off the bottom of the kettle. Heat the water to boiling-point and boil five or ten minutes. Nipples should be scrubbed with a brush, both inside and out, and may be sterilized by boiling five minutes, after which they should be put in a covered, sterilized jar. After the milk has been prepared, the bottles should



GIRLS LEARNING TO BATHE A BABY CORRECTLY

THE WATER MUST BE AT THE CORRECT TEMPERATURE, SO A THERMOMETER IS NECESSARY. PLACING THE TUB, AND PAD ON WHICH BABY IS LAID, AT TABLE HEIGHT MAKES THE WORK EASIER

be drained and filled, using a graduate to measure the milk so that the correct amount for one feeding can be put in each bottle. The bottles then are corked with absorbent cotton or with corks that have been dipped in boiling water to sterilize them, or they may be covered with clean white paper held on with an elastic band. For the straight-sided bottles use caps that can be purchased for this purpose.

Set the bottles upright in a pail having a false bottom

(see page 261). Put enough water in the pail to come up to the level of the food in the bottles. Punch a hole in the cap of one bottle and insert a clean thermometer far enough so that the bulb is in the milk. Heat the water in the pail until the thermometer registers 145° F. Remove the thermometer and add enough cold water to the water in the pail to reduce the temperature to 135° F.; cover the kettle or pail and let the bottles stand in it for thirty minutes. Then cool the bottles and keep in a temperature of 50° F. until feeding time.

When it is time for feeding, wash your hands before preparing the bottle. Remove the cork from the bottle of food, put on a sterilized nipple, and heat the food by setting it in a kettle of hot water deep enough to come above the food in the bottle. Shake the bottle well, then test the temperature by letting a drop or two fall on your wrist; it should feel warm, but not hot or cold. Do not handle the nipple more than is necessary, and never put it in your mouth. The baby should drink at one time all of the milk in the bottle, which should be taken away as soon as it has finished.

It seems best to feed some babies every three hours, while others need feeding only every four hours. A baby may be trained to sleep all night without feeding. For the first two months it may need to be fed at ten o'clock at night, and then not until in the morning at the scheduled time; and after it is two or three months old it should sleep all night without feeding. A baby must be fed at regular hours and, when necessary, be wakened to take its food.

A baby should be given water several times each day. The water should be lukewarm (98° F.) water that has been boiled. Why?

Orange juice is given to artificially fed babies, beginning when they are three months old, using one tea-

spoonful and increasing to three or four tablespoons by the time they are six months old. The orange juice should be given once a day, one hour before a feeding, usually in the morning. It should be diluted with an equal amount of boiled water.

After the baby is six months of age it may be given small amounts of other foods. It is usually the best plan to consult the physician about the foods and the amounts to be given. An infant must be fed correctly because careless or incorrect feeding causes digestive disturbances.

HOME PROBLEMS AND QUESTIONS

Send to the Children's Bureau, U. S. Department of Labor, Washington, D. C., and ask them for bulletins on Infant Care and the Care of Children. Probably these bulletins are already in the school library. In them find the suggestions given for feeding a baby. Discuss these. Make a schedule for feeding a baby six months old; one twelve months old.

If you have a baby brother or sister, perhaps your mother will let you help in preparing the baby's bottles or any other food that is to be given.

LABORATORY EXERCISES

FOR THE BABY

OATMEAL WATER

3 tbsp. oatmeal

1 qt. water

$\frac{1}{16}$ tsp. salt (should not be used if baby is under 6 months of age)

Heat water to boiling-point; add salt; slowly stir in oatmeal. Cook one hour. Strain.

BARLEY WATER

3 tbsp. pearl barley

1 qt. water

$\frac{1}{8}$ tsp. salt (should not be used if baby is under 6 months of age)

Prepare in the same manner as described for oatmeal water.

GRUELS

Proportions for gruels:

Barley: 1 tbsp. barley flour

1 c. scalded milk

2 tbsp. cold water

Salt

Cook 30 minutes

Oatmeal: $\frac{1}{4}$ c. coarse oatmeal

$1\frac{1}{2}$ c. boiling water

Salt

Milk to thin to desired consistency

Cook 4 hours

Corn meal: 1 tbsp. corn meal

2 tbsp. cold water

$1\frac{1}{4}$ c. boiling water

Salt

Cook $1\frac{1}{2}$ hours

Prepare in same manner as oatmeal water, except that when milk is used it should be added at the end of the cooking.

VEGETABLE SOUP FOR BABY

Such vegetables as spinach, carrots, beet greens, turnips, celery, chard, and lettuce are good to use for such soups. Vegetables must never be served raw, but must be prepared in the following manner:

Chop the vegetables very fine or put them through the meat-grinder; place in saucepan and cover with water; add salt, using one teaspoonful to a cup of vegetables; boil very slowly until very tender.

For little babies, strain the liquid from the vegetables, but do not use any of the pulp.

For older babies, the vegetables may be put through the strainer, and one or more teaspoonfuls may be added to a cup of the liquid.

REVIEW QUESTIONS

1. What is "modified" milk? Why should a physician be consulted about the formula for such milk?
2. What is the best food for a baby?
3. Give the directions for preparing a baby's food when it is artificially fed.
4. Why is it important that the baby have plenty of water?
5. Why is orange juice given to a baby? How should it be prepared?
6. What foods are suitable for a child six months of age? For a child one year old?

CARE OF THE SMALL CHILD

If a person is to be healthy and strong when grown up, it is very important for him to receive excellent care during babyhood and childhood. The child under six years of age is often spoken of as the "pre-school child", and a great deal of attention is now being given to training mothers in the proper methods of housing, feeding, clothing, and training children of this age.

Some important things to remember in the care of the pre-school child are these:



A HEALTHY, HAPPY BOY WITH HIS DOG
HIS MOTHER HAS EVIDENTLY ALWAYS
GIVEN HIM THE BEST OF CARE

1. The child must have plenty of fresh air every day. At night it must sleep in rooms with windows wide open and must play in rooms that are aired thoroughly each day during the winter,

and must be allowed to go out-of-doors to play or to walk every day when it is not stormy, even during the winter months.

2. The child must have plenty of sleep each night, going to bed early and at a regular time. It should take a nap of from one to two hours in the daytime. It is better for every child to sleep in a bed by itself.
3. When possible, a child should be given a bath every day. If this is not possible, at least two baths a week should be given. The face and hands should always be washed before meals and at bedtime, and the hands should always be washed after going to the toilet. The teeth should be washed at least twice a day and always before going to bed at night.
4. A child should have a natural bowel movement every morning after breakfast, and it should be the duty of some one to see that it goes to the toilet at this time every morning.
5. The clothing of the child should be very comfortable and should never pull or pinch at any point. All the daytime clothing should be removed and night clothing put on when going to bed. Allowing the child to sleep in the daytime underwear is a very bad practice. Underclothing and stockings should be changed at least twice a week, and oftener is better. In winter, light-weight or summer clothing may be worn in the house when it is heated with an efficient heating plant, but out-of-doors it should wear very warm wraps, leggings, and rubbers. A child should always wear rubbers in wet weather. The shoes should be comfortable, never too short, and should fit the feet.

6. The child needs some one to direct its play, since it may be taught many things worth while in play. Group play (playing with other children) is helpful to the "pre-school child." This is the age when the kindergarten or nursery school can be very helpful. Children should be taught through play to be fair, to be generous, to be thoughtful of others, to work with other people. The child likes to imitate others and likes to dramatize (act) the stories read or the things it has seen or heard. Reading or telling stories to children is an excellent way to amuse them and to teach them to like to read. It is very important to choose stories that will not frighten the child.



A WARM OUTFIT FOR A LITTLE CHILD TO WEAR OUT-OF-DOORS IN COLD WEATHER

7. Instructions must be given to the child in regard to correct manners at the dining-table and elsewhere. It should be taught to obey and should never be coaxed or bribed. It should be taught to be kind and courteous to others, to be able to do things for itself, to be truthful, and to respect the rights of others.

The meals for the child between babyhood and six years should be very carefully planned, so that it may receive foods needed for growth. It must be given a variety of foods each day and should not be allowed

to make its entire meal from one or two articles. The diet each day should contain some of each of the following types of foods: (1) milk; (2) eggs, fish, fowl, or meat; (3) bread and cereals; (4) vegetables; (5) fruit; and (6) fats.

Milk and water. At least a pint and, preferably, three glasses of milk should be taken daily. It may be served in cocoa occasionally. Milk should not be "ice cold" when served to children. They should be given plenty of water, preferably between meals.

Eggs, fish, fowl, or meat. Eggs, poached, coddled, or soft-cooked, are especially good for children. Meat should not be served in large quantities or too often; for the child under two years of age scraped beef or lamb or minced chicken should be the only meat used. It should be broiled, roasted, or stewed, never fried.

Bread and cereals. Oatmeal is very good for children. Whole wheat or Graham bread, well-baked white bread, dry toast, zwieback, crackers, or Graham crackers are desirable breads for children to eat. Hot breads, pastries, and rich cakes should not be served to children.

Vegetables. Baked and mashed potatoes, and well-cooked rice, may be served as the starchy vegetable. At least one green vegetable, especially spinach and carrots and the leafy vegetables of mild flavor, must be served every day. For children under two years of age the vegetables are finely divided or mashed, or are served in soups.

Fruit. Orange juice is especially good for children. All fruit must be ripe when served to children, and for very small children it is usually better digested when cooked. Dried fruits may be served in the child's diet.

Fats. Butter should be used freely in the child's diet.

Sweets. Simple desserts such as custards, junket, blanc mange, rice pudding, plain ice cream, or cooked

fruits should be served to the small child. Candy, if used at all, should be served at the close of a meal, and then only one or two pieces should be the allowance. Children should not eat candy between meals.

Foods which should never be served to children:

1. Tea or coffee, or iced beverages
2. Nuts or other foods requiring careful mastication (chewing)
3. Fried foods
4. Pastry
5. Corn or raw vegetables
6. Veal or pork (except bacon)
7. Dried fish or dried meats
8. Pickles
9. Hot breads, griddle cakes, or waffles
10. Poorly cooked vegetables and cereals
11. Rich cakes or desserts
12. Foods that are not pure or are of poor quality

Children should eat their meals at regular hours each day. They should not be allowed to "piece" on candy, or other sweets, between meals. If they are hungry between meals, they may be given a slice of bread. The child from two to six years of age needs three warm meals a day, while the child from one to two years needs to be fed oftener. The day's food should be divided fairly evenly between the three meals, and foods representing each of the five food groups (see page 50) should be served at each meal. Dinner should be at noon.

Children should be taught to masticate (chew) their food thoroughly, and plenty of time must be allowed for eating each meal. They should be taught to eat the foods that are good for them. They should not be forced to eat, but when they do not eat for several

meals it is a wise plan to consult a physician to find out the reason for this loss of appetite.

Children should be taught good table manners. They copy the manners of their parents, brothers, and sisters,



A CHILD SHOULD HAVE REGULAR MEALS AT REGULAR HOURS

so it is very important for the older members of the family to use only good manners. When small children can be served at a low table with chairs that are the correct height for them, it is easier to teach them good

table manners, and it is also easier to keep them from seeing the foods that they are not allowed to eat.

HOME PROBLEMS AND QUESTIONS

Use the bulletins on Child Welfare that were obtained from Children's Bureau and others that the teacher can



THE CHILDREN ARE EATING BREAKFAST OUT IN THE YARD ON THEIR LITTLE TABLE WHICH IS OF A HEIGHT PERMITTING THEM TO USE CHAIRS LOW ENOUGH TO PERMIT THEM TO PUT THEIR FEET ON THE GROUND

obtain from (1) the Superintendent of Documents, U. S. Department of Agriculture, Washington, D. C. ; (2) the Bureau of Education, Department of the Interior, Washington, D. C. ; (3) the Federal Board for Vocational Education, Washington, D. C. ; (4) possibly from the State University.

After studying these, plan the meals for a day for a child four or five years old ; for one two years old.

If you have little brothers or sisters, perhaps your

mother will allow you to prepare the meals for them for one day. In what other ways do you help with the care of the children?

What foods do you eat that are not good for your little brothers or sisters?

What is the meaning of the word "malnutrition"? Have you ever heard this word used? What is meant by this statement, "That child is suffering from malnutrition"?

In what ways may one tell when a little child is ill? What are the contagious diseases that are called "children's diseases"? What precautions should be taken to keep children from having these diseases? Consult the school nurse or a physician.

Perhaps some mother will bring her four or five year old child to school, with some of its clothes, and show the class how these are made and how to tell when they fit. Why should small children wear wash dresses and suits? How do ready-made garments and home-made garments for children compare in price? When is it the best plan to buy ready-made clothing?

LABORATORY EXERCISES

SOME GOOD FOODS FOR SMALL CHILDREN

SPINACH SOUFFLÉ

1½ c. cooked spinach, chopped fine

2 eggs

1 c. No. 3 white sauce (made with milk)

Beat the yolks of the eggs. Stir the white sauce slowly into the eggs and add the spinach. Beat the egg-whites until stiff. Fold the whites very carefully into the mixture. Pour into a greased baking-dish. Bake in moderate oven (350°-400° F.) until firm. Why must the egg-whites be "folded in" carefully?

POTATO SOUFFLÉ

4 large white potatoes	$\frac{1}{2}$ c. milk
1 tbsp. butter	$\frac{1}{4}$ tsp. pepper
4 eggs	1 tsp. salt

Boil and rice the potatoes. Add the milk, butter, and seasoning. Beat the egg-yolks and add to the mixture. Beat the egg-whites until stiff and fold into the mixture. Pour into buttered baking-dish. Bake in moderate oven (350° – 400° F.) until surface is browned.

RICE PUDDING

1 qt. milk	$\frac{1}{2}$ tsp. salt
$\frac{1}{3}$ c. rice	$\frac{1}{3}$ c. sugar
1 tsp. vanilla	$\frac{1}{2}$ c. raisins

Wash the rice thoroughly. Add the other ingredients, leaving out the raisins. Pour in a buttered baking-dish; put bits of butter over the top and cover the dish. Bake three hours in a slow oven (250° – 300° F.) or fireless oven, stirring occasionally during the first hour. Add the raisins one-half hour before the pudding is done, leaving the dish uncovered.

TAPIOCA CREAM

$1\frac{1}{2}$ tbsp. minute tapioca	1 tsp. vanilla
$1\frac{1}{2}$ tbsp. sugar	1 c. milk
$\frac{1}{8}$ tsp. salt	1 egg

Heat the milk in top part of double-boiler. Pour this slowly over the tapioca, sugar, and salt, which have been mixed together. Return to double-boiler and cook twenty minutes. Beat the egg-yolk, add slowly to the mixture, stirring constantly. Add vanilla, then fold in the egg-whites, which have been beaten until stiff. Chill before serving.

What other dishes that have been prepared in the laboratory are good dishes to serve to children?

THE DINNER PLAN

Dinner, in most homes, is the "heaviest" meal served during the day because it consists usually of a greater variety of food than do the other two.

The home dinner may be planned in one of three ways: (1) Meat, with one or two vegetables; bread and butter with jam, jelly, or preserves; dessert. (2) Meat, with one or two vegetables; salad; bread and butter with jam, jelly, or preserves; dessert. (3) Soup; meat, with one or two vegetables; bread and butter with jam, jelly, or preserves; salad; dessert. A very simple meal is a "one-dish meal"; that is, a combination dish, consisting of both meat and vegetables, served with bread and butter, and perhaps a sweet or dessert of some kind.

The plan which is best to use for dinner depends upon several things: (1) what kind of meals have already been eaten during the day, (2) what amount of money can be spent for food, and (3) what amount of time should be spent in getting the meal.

When meals are planned, they should be arranged for the whole day at least. If a very light breakfast and a simple luncheon or supper are to be served, it is necessary to have a heavier dinner than when a good deal of heavy food (food containing much food value) is served for breakfast, luncheon, or supper. Then, too, the kinds of food served in any one meal must be considered when the others are planned, because variety is necessary in the diet. Foods used often should be varied by preparing them in different ways; for example, potatoes should not be served mashed every day for dinner, but should be served in other ways on different days.

It is not necessary to have soup at the beginning of a dinner, nor is it necessary always to have a dessert at

the end. The housewife should not serve a heavy dessert, such as a pie or rich pudding at the end of a meal in which a meat, vegetables, and a salad have been served. It is better to serve a dessert of fruit, or plain gelatine pudding, at the end of such a meal.

Too many vegetables should not be served at dinner; the general rule of serving two is a good one to follow. Lettuce is usually served with any salad and would make the third. In choosing the two, it is better to select one starchy and one green vegetable, the two being pleasing in taste when eaten together. When a vegetable salad is served, it can take the place of one of the cooked vegetables.

Only one kind of meat should be served. A meat or fish salad should not be served when another meat dish is being used. Eggs are not needed when meat is served, nor should meat be served with baked beans.

The same vegetable should not be served twice in the same meal; for example, do not serve potatoes in a hot dish and also in a salad, nor rice as a vegetable and in a rice pudding, nor tomato salad and tomato sauce for the meat. Do not serve more than one kind of "sweet" at a meal.

When a housekeeper must do everything herself, without help, she should consider the length of *time* needed in the preparation of a meal. Some dishes require a much longer time in their preparation than it is right for the housekeeper to spend when there are others more easily prepared that are quite as good. No person should spend too large a share of her time in cooking, as there are other things as important to be done. It is necessary to prepare enough food and to have it well cooked, but "fancy" cookery takes too much time when the housekeeper does all of the household work in her home.

It is wise to think about the amount of fuel used in getting a meal if other than a coal or wood range is used. Sometimes it is economical to plan a meal with all the main dishes baked in the oven, or cooked in the steam cooker, or in the fireless cooker, instead of cooking one dish in the oven and one or two on top of the stove.

To plan, cook, and serve a good dinner is a difficult piece of work, and any girl deserves praise when she can do this at home without her mother's help.

"Company" dinners are sometimes too elaborate, requiring too much time for preparation and too much money for food. When the home-maker who does her own housekeeping plans a meal for guests, she should remember that the guests came to visit with her and that they do not want to find their hostess too tired to talk, or so busy in the kitchen that there is no time for visiting.

The following suggestions may be considered in planning an informal company dinner. Formal dinners are not given unless there are plenty of household helpers to do the work and attend to the service.

1. Follow plan 2 or 3 given for the home dinner in planning a dinner for company. There is no need of having a greater variety of food than is often served to the family.
2. If you know the guest to be especially fond of a certain food or one cooked in a particular way, this may be served.
3. Plan a menu that makes possible the preparation of some foods to be served cold, which can be gotten ready before the arrival of the guests. Often the dessert or salad may be this kind of dish.
4. Plan to serve foods that do not require "last-minute preparation." For example, a broiled steak requires cooking just before serving,

while Swiss steak may be prepared before the arrival of the guests and requires only to be put on the platter for serving.

5. Use your best table linen and china and make the table as attractive as possible.
6. Serve your choicest preserves, jams, or pickles if you care to do so, but serve only one kind of pickle and one kind of "spread."
7. Arrange all the dishes so that the serving of courses may be done easily. When the hostess attends to the serving, the compromise or combination service should be used.
8. After the meal, the table may be cleared, the food put away, and the dishes stacked to be washed after the guests leave, if they are to stay for only one meal.

When entertaining a group of people for a meal, it is often easier to arrange for a buffet supper or luncheon than to attempt to plan a dinner for such a group. The food for the first course of a buffet meal may be placed on the dining-table and each guest may be asked to serve himself or herself to whatever is desired; or the guests may be seated around the room and the foods served at the table, then the plate taken to the guest. When the first course is finished, all the plates should be taken from the guests and all dishes containing foods should be removed to the kitchen. The dishes containing the foods and the dishes needed for the second course are then placed on the table, and the service of the meal is continued. Usually two courses are enough to serve at such a meal. The foods selected must be such as can be easily eaten with one hand, since the other must be used for holding the plate. The menu on page 204 is suggestive of the type served for buffet meals.

FIRST COURSE

Creamed chicken in timbales
 Glazed sweet potatoes
 Perfection salad in lettuce cups
 Buttered rolls
 Peach pickles

SECOND COURSE

Lemon tarts
 Nuts Candies
 Coffee

LABORATORY EXERCISES

LEFT-OVER DISHES

Experiments: 1. Place the kettle of fat over the fire and heat until it begins to "foam" on the surface. Place a cube of bread in the fat. After one minute remove the bread; break it apart. Has the bread absorbed the fat? What is the temperature? Use the thermometer.

2. Continue heating the fat until blue smoke rises from the surface. Place another cube of bread in the fat. After one minute remove the bread; break it apart. Has the fat been absorbed as in the bread used in No. 1? Which temperature would be best to use in frying croquettes? Can you explain why? Would you want the fat as hot for frying doughnuts? Why?

CROQUETTES

Croquettes may be made of left-over meat, vegetables, or cereals, alone or combined, and may be mixed with thick gravies, No. 4 White Sauce, or egg. The croquettes should be mixed, the hot sauce added, and then allowed to cool. Be careful to add only enough sauce or eggs to bind together the ingredients.

When the mixture is cold, form the croquettes into the desired shape, either ball, pyramid, or roll. Beat an egg slightly, add two tablespoons of water, and mix thoroughly.

Use bread crumbs that are very fine. Roll the croquette in the egg, then in the crumbs, then in egg, and then in crumbs. Place croquettes in frying-basket and lower the basket carefully into the hot fat. Fry until brown. Remove croquettes and place on crumpled brown paper to drain. Be careful not to pierce or break the crust on the croquette, either while it is in the fat or when removing it from the fat.

The following are some combinations used in croquettes:



A CONVENIENT DEEP-FAT KETTLE WITH BASKET

SALMON CROQUETTES

$\frac{1}{3}$ c. No. 4 White Sauce
 $\frac{2}{3}$ c. canned salmon, flaked
 Lemon juice, paprika, and salt to taste

POTATO CROQUETTES

1 pt. mashed potatoes	1 tsp. chopped parsley
2 tbsp. butter	1 egg yolk or $\frac{1}{2}$ egg
$\frac{1}{4}$ tsp. salt	Onion juice if desired

BEEF AND RICE CROQUETTES

1 c. finely chopped beef	$\frac{1}{8}$ tsp. pepper
$\frac{1}{3}$ c. cooked rice	Tomato sauce or left-over gravy

SCALLOPED HAM AND EGGS

2 hard-cooked eggs	1 c. No. 2 White Sauce
$\frac{1}{4}$ c. chopped ham	Buttered bread crumbs

In the bottom of a buttered baking-dish, or ramekin, place a layer of crumbs, then a layer of white sauce, then a layer of the eggs sliced, then white sauce, then ham, then crumbs;

continue until the dish is filled. Finish with a layer of crumbs. Bake in a moderate oven until crumbs are browned and ingredients thoroughly heated through.

REVIEW QUESTIONS

1. What is the material used for binding together the ingredients in each of the croquette recipes?
2. What would be the result if too much white sauce were added to the croquette mixture?
3. What are other recipes for using left-overs?
4. Give three general plans for dinner.
5. What points must be considered when planning a dinner?
6. Should meals be planned singly or for the day? Why?
7. Give the general rules to follow in planning the vegetables for dinner.
8. What are some reasons for not serving more than one meat for dinner?
9. What should not be served at a dinner where meat is used?
10. Should the same food be served twice in one meal? Give examples.
11. In what way may fuel be saved in getting a dinner?
12. Plan some dinners that would be economical as to price and time, and that would be pleasing in taste and appearance.
13. State rules to be followed in planning a company dinner when the housekeeper does all of the work.
14. Plan for company a dinner that can largely be prepared in the oven. Why would this be a good kind to serve?
15. Plan a buffet luncheon which may be served to the mothers of the girls. Make a list of the dishes and silverware needed; make a list of supplies needed; plan the table decorations.

VEGETABLES

The term "vegetable" includes a large class of foods which are used in great quantities in our diet. Vegetables of many kinds can now be had at all seasons of the year because the canned and dried vegetables, like the fresh ones, can be shipped successfully from one part of the country to another. In large city markets a great variety of fresh vegetables can be bought, even

in midwinter. Hot-house and imported vegetables are expensive and in many cases not of good flavor. Lettuce is now used by many households at all seasons of the year; it is usually good when carefully selected, and it satisfies the desire for something green during the winter.

Vegetables are important in the diet because they furnish a large share of the mineral matter needed by the body. They supply carbohydrates, in the form of starch and sugar, and also supply bulk in the diet. There are vitamins in many vegetables, especially in the leafy vegetables, such as spinach, lettuce, and cabbage.

There are several classifications given for vegetables; perhaps the best one to use is that which divides them into green and starchy vegetables.

The green vegetables are sometimes called watery or succulent vegetables. They contain very little starch, but are valuable as food for their mineral matter, and for the cellulose and the vitamins they supply. They are useful because they furnish variety in our meals. Such vegetables as lettuce, cabbage, Brussels sprouts, celery, cucumbers, radishes, onions, and tomatoes are green vegetables.

Green vegetables are of two kinds, (1) those with a mild flavor, such as celery and squash, and (2) those with a strong flavor, such as cabbage and onions.

Steaming is a good way of cooking vegetables, if all the food value is to be retained. Mild-flavored vegetables taste well when steamed, or when boiled in just enough water to keep them from burning. The strong-flavored vegetables are of better flavor when cooked in a quantity of water.

The starchy vegetables are such vegetables as potatoes, corn, sweet potatoes, and parsnips; also the legumes which have already been studied.

Baking is an excellent method for cooking vegetables which taste well when prepared in that way. Boiling vegetables, such as the potato, with the skin on, prevents the loss of food value.

Vegetables are cooked for several reasons: (1) to soften the cellulose, (2) to change or improve the flavor, (3) to make the starch easier to digest, (4) to vary the way of serving them.

Vegetables are often cooked for too long a time. This spoils the flavor and perhaps the appearance, in

addition to causing a loss of food value. They should be cooked until tender and not allowed to stand after they are done. Cabbage is a vegetable usually cooked for too long a period, in which case it becomes strong in flavor, tough, and very different in appearance.



"SPARK PLUG", THE HEALTH ANIMAL

HE IS MADE OF VEGETABLES WHICH EVERY
CHILD SHOULD LEARN TO EAT

fresh crisp ones should be selected. Withered vegetables are not good in flavor and are often poor in texture. Many vegetables, such as corn, green peas, and string beans, retain their good flavor but a very short time after being gathered. If withered vegetables must be used, they may be improved by long soaking in cold water before cooking. It is always best to go to the market and select vegetables, rather than to order them by telephone, because one can then select the best.

When vegetables are purchased, the

When selecting vegetables, the following points will be helpful :

1. Green beans should be crisp, and the pod should snap easily. They are usually sold by weight, and are best when cooked very soon after gathering.

2. Green peas should have a green pod, the seed tender when pressed with the finger nail, and the pods well filled. They are sold by weight and are best when cooked soon after gathering.

3. Green corn should have a fresh green husk, brown silk, the ears well filled, and the grain tender and full of juice when pressed with the finger nail. Corn is sold by the dozen ears, and has a better flavor when fresh from the garden.

4. Young carrots or fresh beets should be firm and have tops that are green and fresh. They are often sold by the bunch, the number varying in the bunch. Winter carrots are sold by weight.

5. A head of lettuce should be solid when pressed, and not have a number of outer leaves that must be thrown away. Leaf lettuce should be fresh and of a light green color, without old and coarse leaves. It is sold by weight usually ; sometimes by the bunch or by the head.



IT IS A WISE PLAN TO MAKE THE ACQUAINTANCE OF THESE THREE BECAUSE THEY ARE SOME OF THE FOODS WHICH SHOULD BE USED OFTEN

6. Celery should be crisp, tops not wilted, and outer stalks neither woody nor brown in color. It is sold at so much a stalk.

7. Spinach leaves should be green and not wilted, nor the stems dry in appearance. Spinach that is covered with dirt or sand is difficult to clean, and it is better not to buy it when in this condition. Spinach and other "greens", such as Swiss chard, are usually sold by the pound, sometimes by measure.

8. A head of cabbage should be solid and with few leaves that cannot be used. Cabbage should be sold by weight, since the heads vary so in size.

9. Radishes should be firm, tops not wilted. They are sold usually by the bunch.

10. Tomatoes should be thoroughly ripe, smooth, and without spots that, when removed, will spoil the shape of the tomato. They are sold by the pound in small quantities, and by the measure in large quantities. If tomatoes are to be stuffed or used whole for salads, it is desirable to select those of uniform size.

Vegetables should be kept in a cool, dry place. All withered or dried leaves and tops that are not to be used should be removed before putting vegetables away. Vegetables to be kept for winter use should be stored in a dry, cool, dark place, where they will not freeze. Beets, carrots, parsnips, and turnips are sometimes covered with sand to keep them fresh. When there is a good place to keep such foods, it is economical to buy them in quantity in the fall, when they are cheaper than during the winter months. On the farm, where vegetables are grown, a considerable number are usually stored.

Green vegetables are best in flavor when eaten soon after gathering, and for this reason many city and town people like to buy from "road-side markets" when driving through the country.

HOME PROBLEMS AND QUESTIONS

Make a list of all the vegetables you know.

Divide the list into the following groups :

1. Those that may be baked.
2. Those that may be creamed.
3. Those that may be scalloped.

Can any of the vegetables be put in more than one class?

Make a list of the vegetables that can be eaten raw. How are they prepared?

Make a list of the green vegetables, and one of the starchy vegetables commonly used. Use Bulletin No. 28, "The Composition of American Food Materials", obtained from Superintendent of Documents, Department of Agriculture, Washington, D. C., to find to which class they belong.

What is the price by the pound of the following: onions, carrots, turnips, parsnips, potatoes, sweet potatoes?

Make a list of the number of each in a pound. How may this list be used?

What is the price by the can of peas, tomatoes, and corn? Does the price vary with the different brands? Can you give reasons why this might be? Read the label on a can of vegetables. What is stated on the label? Why should one read the label?

Bring to class one or two good recipes for preparing vegetables which have not been used in class. Let every member of the class copy the recipes on cards to be put in the card-file cook book. Perhaps your mother will let you prepare some of these at home. How many people does each recipe serve? Write this information on the recipe card. Report your success to the class.

TIME TABLE FOR BOILING FRESH VEGETABLES

Asparagus	30 to 45 minutes
Beans (string)	2 hours
Beets	1 hour
Cabbage	30 minutes
Carrots (diced)	20 minutes
Cauliflower (in sections)	20 to 30 minutes
Corn (on cob)	12 to 15 minutes
Lima beans	45 minutes
Onions (whole, medium size)	30 to 40 minutes
Peas	20 to 30 minutes
Potatoes (whole, medium size)	30 to 45 minutes
Spinach	15 to 20 minutes
Sweet potatoes (medium size)	30 minutes
Turnips (whole, medium size)	30 to 45 minutes

LABORATORY EXERCISES

SEVERAL DIRECTIONS FOR COOKING VEGETABLES

Boiling :

1. Put the prepared vegetables into boiling salted water.
2. Use one teaspoonful salt to one quart water.
3. Boil vegetables with a strong flavor in uncovered saucepans or kettles. Why?
4. Do not allow the water to boil rapidly, but keep it boiling gently.
5. To test the vegetables, pierce with a steel fork having small tines with a sharp point.
6. Remove vegetables from water as soon as done, when they should be placed in a warm place to dry for a few minutes.
7. The water in which vegetables have been boiled may be used in making soups.

Steaming :

1. Have water below steamer boiling hot before putting in vegetables and add more boiling water, if needed, while vegetables are cooking.
2. Add the salt to the vegetables in the steamer.

3. Strong-flavored vegetables are not so good when steamed as when cooked in boiling water.

Baking :

1. Mild-flavored vegetables are good baked.
2. Place prepared vegetables in shallow pans and bake in oven until tender when pierced with a fork, or, for potatoes, when pressed between the fingers.
3. Pierce potatoes with a fork to allow the escape of steam. This is to keep the potatoes from becoming soggy.

VEGETABLES

BAKED SQUASH

Wash the outside of a Hubbard squash. Cut into pieces about three inches square, or into any shape desired. Remove the seeds. Sprinkle the inside of each piece with a little salt, pepper, and sugar. Place on a shallow pan and bake in oven until squash is tender and slightly browned on top.

BAKED CORN

1 can corn	1 tbsp. butter
1 pt. milk	2 eggs
$\frac{1}{2}$ tsp. salt	1 tbsp. sugar
$\frac{1}{8}$ tsp. pepper	Buttered bread crumbs
Chopped green peppers, if desired	

Beat the eggs slightly, add milk, sugar, salt, and pepper : mix thoroughly. Add the corn. Pour the mixture into a buttered baking-dish, add the butter and cover top with bread crumbs. Set in a pan of water. Bake about forty-five minutes in a moderate oven (300°–400° F.).

Would less time be required if this were baked in ramekins? Why?

CARROTS AND PEAS

Wash and scrape a carrot. Cut into dice, place in boiling salted water ; boil gently until the carrot is easily pierced with a fork. Do not cover the saucepan, and use as little water as possible. When the carrot is done, drain it from the water ; add it to an equal quantity of drained canned

or fresh peas which are hot. Pour melted butter over them; sprinkle with pepper. Serve in a warm vegetable-dish.

Instead of serving them in this manner, after combining the two vegetables, add half as much of No. 2 White Sauce as there is of vegetables. Re-heat and serve in bread boxes. A **bread box** is made by taking a piece of bread about three inches square and two inches high and hollowing it out to make a box. Then butter outside of box, place on pan, and toast in oven. Use while warm.

These bread boxes are used simply to vary the manner of serving a food. Creamed oysters, creamed meats, and other creamed vegetables are also served in bread boxes.

How may the bread which you removed from the center of the box be used?

CREAMED ONIONS

Peel an onion, wash and place in boiling salted water to cook. Do not cover pan. The onion is done when it can be pierced easily with a fork. Drain onion and add No. 2 White Sauce. Re-heat. Serve in a warmed dish.

BAKED STUFFED PEPPERS

Cut a thick slice from the stem-end of each pepper, remove all the seeds, wash thoroughly and let drain. Use enough stale bread crumbs to fill the peppers; add salt to taste, as much butter as desired and enough water to slightly moisten the crumbs. Heat this mixture until the butter is melted. Fill the peppers. Place them in a baking-dish in an upright position, and on top of each place a small square of bacon. Put water in baking-dish one half inch in depth. Bake slowly for forty-five minutes or until tender.

Have you ever seen green peppers used in any other way? Perhaps some one can bring to school a good recipe that may be copied and tried at home by other members of the class.

CABBAGE AU GRATIN

- 2 c. cooked and salted cabbage, cut in small pieces
- 1 c. No. 2 White Sauce
- $\frac{1}{2}$ c. grated cheese
- $\frac{1}{2}$ c. buttered bread crumbs

Butter the bottom and sides of a baking-dish. Place a layer of cabbage in the dish; cover with white sauce, then with cheese; put in another layer of cabbage, then white sauce. Cover top with buttered bread crumbs. Bake in a moderate oven (300°–350° F.) for fifteen minutes or longer, until crumbs are nicely browned.

ESCALLOPED POTATOES

Potatoes may be prepared in the same manner as above, but are sometimes prepared by the following method:

Slice uncooked potatoes very thin. Into a buttered baking-dish put a layer of raw potatoes; sprinkle with salt and pepper and shake about a teaspoonful of flour over potatoes; add bits of butter if desired. Put in another layer of potatoes, seasoning, and flour. Add enough milk so that it comes up high enough in the dish to be seen around the potatoes. Over the top place buttered bread crumbs. Cover the dish for the first forty-five minutes. Bake very slowly (250°–350° F.) for one hour or longer. More milk may be added if necessary. Test by carefully piercing with a fork to determine when potatoes are done.

THE POTATO

Potatoes are used as food in greater amount than any other vegetable. If all the potatoes grown, minus those used in other ways than human food, were equally divided among the people of the world, it would give every person about four bushels a year.

The potato is a native of America and probably was first found in Chile. It was first grown in Europe in or about 1585. In Ireland the potato is one of the chief foods of the people, and for that reason the white potato is called the Irish potato.

The botanist calls the potato a tuber, that is, an underground stem which has thickened and become a storehouse for food to be used by the new plants.

When the chemist examines the potato, he finds that it contains a large amount of starch, a little protein, some mineral matter and a large per cent of water. The potato is particularly valuable for its starch, and is therefore mainly a heat- and energy-producing food.

The method used in cooking potatoes has much to do with the food value. Baking or boiling "in their jackets" saves the food value. Peeling and then boiling causes some loss of the mineral matter and protein, since these foodstuffs are found just under the skin of the potato and may be lost when it is pared, unless very thin peelings are removed.

Potatoes, to be cooked, should be put in boiling water, not in cold, as soaking peeled potatoes in cold water draws out the starch and also causes a loss of protein and mineral matter. Potatoes should never soak in cold water after they are peeled, if all of the food value is to be saved. If they are old and withered, they should be freshened by soaking before the skin is removed. Potatoes should be removed from the boiling water as soon as they are done. Baked potatoes, when done, should have the skin broken or pierced with a fork to allow the escape of the steam, which would cause the potato to be soggy.

New potatoes are those sold immediately after they are harvested. Old potatoes are those that have been stored before being put on the market. In the spring old potatoes may sprout, which indicates that a new plant is beginning to grow from the "eye" of the potato. This hurts the quality of the potato for cooking. Potatoes that have been frozen are sweet, poor in flavor, and not mealy.

When buying potatoes, choose those of fairly uniform size, having smooth skins and free from scab. Potatoes

are sold by the measure or by weight, the latter custom being much more common than formerly.

Sweet potatoes are very much like Irish potatoes in food value, except that they contain sugar which gives them their sweet taste. Sweet potatoes are grown and used more in the South than in the Northern States.

LABORATORY EXERCISES

POTATOES

BAKED STUFFED POTATOES

Scrub with a brush, in cold water, a medium-sized, well shaped potato. Cut off a strip of peel one half inch wide around the middle of the potato. Place the potato on a rack in a hot oven. A medium-sized potato needs to bake about forty-five minutes. Test by piercing with a fork or pressing firmly between the fingers; it should feel soft if done.

Cut the potato into halves at the peeled strip, remove the inside carefully from the shells, mash, add salt, butter, and cream, or milk, using about one teaspoon butter and one tablespoon milk for each potato. Beat well. Refill the shell with the mashed potato; do not press down, but fill lightly. Place on pan and set in a hot oven to brown the top slightly. Grated cheese may be sprinkled over each potato before putting in oven to brown.

CANDIED SWEET POTATO

Scrub sweet potatoes and place in boiling water, cook until partly done, peel and place in a shallow baking-dish. Make a syrup by boiling together equal parts of sugar and water; pour this over the potatoes, sprinkle with salt and bits of butter. Bake in a hot oven until the potatoes are done and slightly brown.

RICED POTATOES

Wash and peel a potato. Cook in boiling salted water, allowing $\frac{1}{2}$ tsp. of salt to one pint of water. Boil gently.

When the potato can be pierced to the center easily with a fork, remove from the water. Press through the vegetable press or ricer into a hot dish. Serve.

MASHED POTATOES

To the riced potato add two teaspoons of hot milk; one half teaspoon of butter; salt to taste. Beat with a fork until the mixture is light and fluffy. Place in a hot dish and serve.

FRENCH FRIED POTATOES

Wash and peel small potatoes, cut in eighths lengthwise; soak thirty minutes in cold water to make very crisp. Take from water and dry between towels. Fry in a frying-basket in deep fat. Drain on brown paper and sprinkle with salt.

Test the fat with a small cube of bread. If bread browns in one minute, the fat is the right temperature for frying potatoes.

Should the fat be as hot as when frying the croquettes made in a previous lesson? Why?

REVIEW QUESTIONS

1. Why are vegetables important in the diet?
2. Into what two groups may vegetables be divided? Name examples of each.
3. How should highly flavored vegetables be cooked?
4. Why are vegetables cooked?
5. How should mild-flavored vegetables be cooked?
6. Give the points to be observed in selecting the following: head lettuce, leaf lettuce, celery, cabbage, tomatoes, green corn, and green peas.
7. What foodstuffs are found in a potato?
8. Should peeled potatoes be soaked? Why?
9. In cooking potatoes which are the best methods to use? Why?
10. How may baked potatoes be kept from becoming soggy?
11. What are "new potatoes"? "Old potatoes"?
12. How do sweet potatoes differ from Irish potatoes?
13. Is "French fried" an economical way of preparing potatoes? Why?

OTHER STARCHY FOODS

RICE

Rice is a food sometimes used in a meal in place of potatoes. Rice and potatoes should not be used in the same meal because both are starchy foods, of like appearance, and without much flavor. If a rice pudding is to be served as dessert, then green vegetables are best to use in the main course of the meal.

Most of the rice used in the United States comes from the Southern States, where the growing of rice is becoming a much more important industry than formerly.

Rice is sold in the market in two forms, (1) polished, and (2) unpolished or brown rice. In preparing rice for the market, the outer husk of the seed is removed. The rice then appears brownish in color and is called brown or unpolished rice. To remove this brown coating, the grains are polished. It is then sold as "polished rice" and is white in color. The brownish coating on the rice contains mineral matter and vitamins. When it is removed valuable food material is lost. The brown rice has a good flavor but does not sell so well as the polished rice because of its appearance. It is cheaper than the polished rice. When buying the "best" rice, one should see that the grains are uniform in size and unbroken. Rice may be bought by the box or by the pound. When sold by the box it is more expensive, but may be more sanitary. Since rice is washed thoroughly before cooking, there is little reason for purchasing in the package. It takes about one third of a cup of rice to make a cup of cooked rice.

MACARONI, SPAGHETTI, VERMICELLI

Macaroni is a product made by mixing flour with water to form a stiff dough which is then forced through

metallic plates that have small round perforations with the center of the hole filled, thus making long hollow tubes of dough. When the dough tubes have been dried in ovens they are packed for market. Macaroni is sold in packages that contain pieces cut the length of the package, packed closely side by side, or pieces cut about two or three inches long.

Spaghetti is another form in which this paste is sold, but for this the tubes are made smaller than for macaroni. Vermicelli is still another form of this paste, sometimes rolled and cut in fancy shapes, such as the alphabet.

Macaroni and spaghetti are served as a substitute for starchy vegetables, and when either is used, such foods as potatoes, rice, corn, or beans should be omitted from the meal. Vermicelli is used in soups.

Any of these products need highly seasoned foods, such as tomatoes or cheese, either cooked or served with them. To taste best, they require fat added.

HOMINY

Hominy is a product made from corn by removing the hard outside layers of the kernel. It may be sold in this form, or the grains may be broken into small pieces, when it is called grits — or the pieces may be steamed and rolled, when it is known as flaked hominy. Hominy is a starchy food often used in a meal in place of potatoes, and is very good when well cooked.

CORNSTARCH

Cornstarch is also a product made from corn, and is used as a thickening agent. It is a fine white powder and is sold in packages. Cornstarch is also used in starching clothing, and the cornstarch employed for

that purpose is made in the same way as that used in cooking, but the latter is purer.

TAPIOCA

Tapioca is a product made from the root of the cassava plant which grows in South America. It is almost pure starch, and is prepared from the root by grating, washing, and separating the starch, after which it is dried on metal plates. Tapioca is sold in two forms, (1) pearl tapioca, which is usually soaked several hours before cooking, and (2) granulated or minute tapioca, which need not be soaked. Tapioca is used mainly in making puddings.

LABORATORY EXERCISES

STARCHY FOODS

Experiments: 1. Starch turns to a blue color whenever tincture of iodine is added to it. Place a drop of iodine on each of the following: a slice of potato, rice, tapioca, cream of wheat, flour, sugar, egg, meat. Which contain starch?

2. Place one half teaspoon of cornstarch in two tablespoons of cold water in a glass or test tube. Mix together well. Has the liquid changed in appearance? Let this stand for fifteen minutes. What has happened? Is the starch dissolved in the cold water?

3. Try the same experiment, using sugar instead of starch. Is the result the same? Why?

4. Pour one half cup boiling water directly on one tablespoon cornstarch, stir, boil one minute. Is the mixture smooth? Examine the inside of a lump. Is it like the uncooked starch?

5. Mix one half teaspoon cornstarch with two tablespoons cold water. Heat slowly, boil one minute. Is the mixture smooth? Can you explain why?

6. Try the same experiment, mixing the cornstarch with an equal amount of sugar ; then add boiling water. What is the result ?

7. Try mixing one tablespoon cornstarch with one half teaspoon fat and stirring into boiling water. What is the result ?

The results would have been the same if you had used flour instead of cornstarch. The starch grains must be thoroughly separated before cooking, so that each starch grain may cook thoroughly. From these experiments determine the best method for making blanc mange.

BLANC MANGE

2 c. milk	2 tsp. vanilla
$\frac{1}{4}$ c. cornstarch	$\frac{1}{8}$ tsp. salt
$\frac{1}{4}$ c. sugar	Nutmeg

The pudding should be cooked thirty minutes in a double-boiler. Pour into a mold that has been wet with cold water. When cold and "set", remove from mold and serve with fruit juice, or maple syrup, or cream.

MACARONI AND CHEESE

Break macaroni into short pieces. Rinse and add to boiling salted water. Use about one fourth cup of macaroni with one pint of boiling water and one half teaspoon salt. Boil gently until macaroni is tender. Drain off water, pour cold water over macaroni and drain at once ; this prevents the pieces sticking together.

In the bottom of a buttered baking-dish place a layer of well seasoned No. 2 White Sauce made with milk, then a layer of macaroni, then a layer of grated cheese, then one of white sauce, — continuing until the dish is almost filled. Place a layer of buttered bread crumbs on top. Bake slowly thirty to forty minutes.

RICE AS A VEGETABLE

3 c. water	1 c. rice	1 tsp. salt
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Place rice in wire strainer and wash by running water through the rice. Place water in top part of a double-boiler over direct heat and bring to boiling-point; add the rice and salt. Place over boiling water and cook until the rice is tender. Serve.

Rice may be cooked in a steamer if desired. It is also cooked in boiling water over direct heat, using eight cups of water to one cup of rice. Why is more water needed?

Which method would be best to use when all the food value is to be retained?



ONE CUP OF RICE WILL ABSORB ONE QUART OF MILK WHEN COOKED IN THE DOUBLE-BOILER—A GOOD METHOD OF PREPARING RICE FOR CHILDREN AND INVALIDS

REVIEW QUESTIONS

1. What do you know about the growing of rice?
2. In what forms is rice sold? Which has the most food value? Which is better in appearance?
3. What is the price of polished rice per pound? Of unpolished rice?
4. How is macaroni made? What nation eats a great deal of macaroni?
5. What is spaghetti? Vermicelli?
6. How is hominy made?
7. What are hominy grits? Hominy flakes?
8. What food may hominy replace in a meal?
9. In what kind of package is cornstarch usually sold? What is the price?
10. What is tapioca?
11. In what two forms may tapioca be purchased?
12. Which is the easier to use?

MEAT

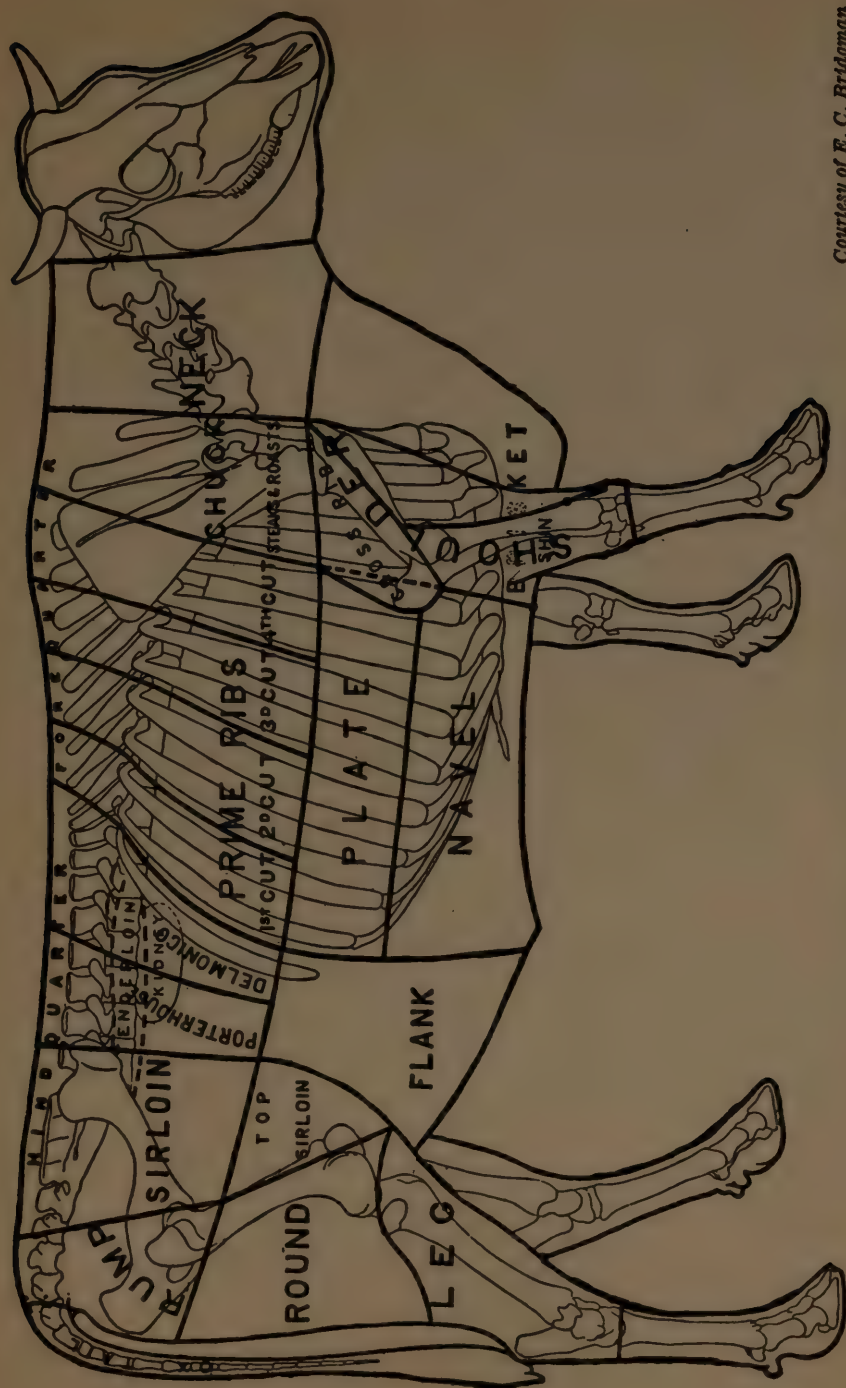
The flesh of animals is called meat. The principal kinds used in the United States are beef, veal, mutton, lamb, and pork.

The slaughtering and packing of meat is one of the most important industries in the United States and is one that is governed by many Federal and State laws. These are necessary, because meat used as food must be clean and free from harmful bacteria, as well as from parasites, which are tiny living creatures in the flesh of unhealthy animals.

Clean meat is that from animals free from disease, slaughtered under sanitary conditions, and kept in a cold place away from flies, dust, and other dirt until sold to the housekeeper. The large packing firms have their plants well equipped to carry on this work according to law. Some of the small slaughter-houses used by butchers are not clean and are not good places for handling meat.

The meat market or shop must be kept clean, and the men handling the meat must wear clean clothes and have clean hands if the meat is to be kept in good condition. As soon as fresh meat comes from the market the paper wrapping should be removed and the meat put in a cool place, away from flies and dust.

In order to understand thoroughly what cooking does to meat, one must understand its structure. Meat is composed of muscle fibers held together by connective tissue. Each fiber is composed of bundles of tiny tubes filled with muscle juice composed of water in which are protein, mineral matter, coloring matter, and extractives. The extractives give the flavor to meat. In between the muscles, and surrounding the tubes, are the particles or globules of fat.



Courtesy of E. C. Bridgman

AMERICAN MEAT-CUTTING CHART — BEEF

When meat is cooked the connective tissue is softened, the flavor is improved, and changes take place in the muscle juice. Meat is either tender or tough, depending upon the age of the animal and the part of the carcass from which it comes. The tough portions come from the much exercised sections of the animal's body. The tough cuts usually have more flavor, contain as much food value, and when well cooked are as pleasant to the taste as the tender cuts. The tough cuts cost less than the tender because there are fewer tender cuts in the animal carcass.

Tender cuts of meat can be cooked successfully in dry heat by (1) broiling, (2) pan-broiling, and (3) roasting. The tough cuts are best when cooked in moist heat by (1) stewing, (2) braising, and (3) pot-roasting.

When selecting meat at the market it is important to know the names of the several cuts and also the part of the animal carcass from which the cuts are taken, in order to decide which method is best to use in cooking them.

LABORATORY EXERCISES

MEATS — TENDER CUTS

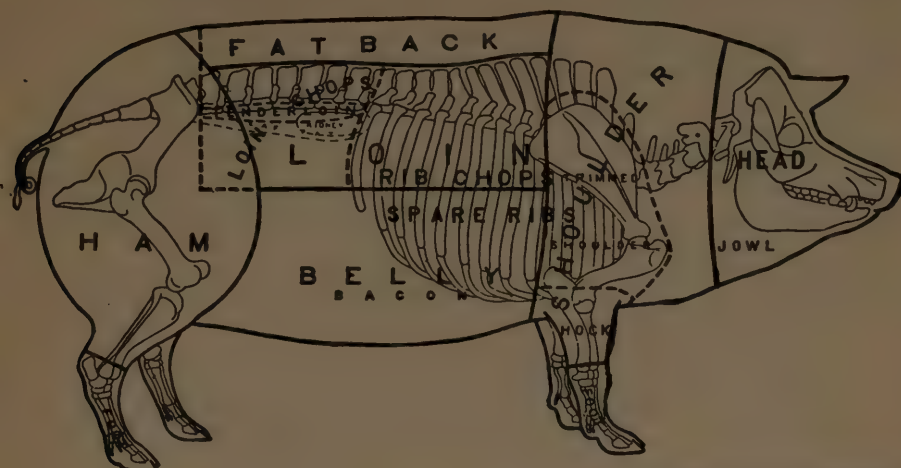
Experiments: 1. Take a small piece of tough lean meat and scrape with the dull edge of the knife, scraping both sides until nothing remains but the stringy mass or framework of the meat. Of what is this framework made?

2. Place the stringy mass in a frying-pan and heat for a few minutes. What is the result?

3. Pour a little water in the frying-pan, cover pan, and simmer slowly for twenty minutes. What effect has the moist heat had on the stringy mass?

What would be the best methods to use in cooking tough meats? Why?

4. Place one cube of meat in a small amount of cold water and let boil three minutes. Place another cube of meat in a small amount of boiling water and boil three



Courtesy of E. C. Bridgman

AMERICAN MEAT-CUTTING CHART — PORK

minutes. Examine the liquid on both. Do they differ? Why? Which method would you use for making soup? Which when the meat itself is to be used? Why?

PAN-BROILED STEAK

Wipe steak with damp cloth. Have frying-pan very hot. Rub a little fat over the bottom of the frying-pan. Place the steak in the frying-pan, sear on one side, then on the other; turn very often and cook until done according to taste. Place on warmed platter, sprinkle with salt and pepper, and with bits of butter if desired.

A steak for broiling should be at least one inch thick. To cook a steak of this thickness to a medium degree requires about fifteen minutes.

Lamb chops, mutton chops, or pork chops may be broiled in the same way.

A broiler may be used instead of the frying-pan if there is one available.

ROAST OF BEEF

Wipe the roast with a damp cloth. Place in a roasting-pan in a very hot oven. Roast ten minutes, or until the meat is seared. Dredge the roast with salt, pepper, and a little flour. Reduce heat in the oven and continue roasting until done according to taste; about fifteen or twenty minutes must be allowed for each pound to cook to a medium degree. A little water may be added which may be used for basting the meat. A large roast is always more juicy than a small one — four or five pounds is as small a roast as should be used to obtain good results.

Meat may be roasted in the fireless cooker, if desired.

CASSEROLE OF BEEF

2 c. left-over cooked beef	$\frac{1}{2}$ c. canned tomatoes
1 c. gravy	$\frac{1}{2}$ onion, thinly sliced
$\frac{1}{4}$ c. celery cut in small pieces	$\frac{1}{4}$ tsp. salt
$\frac{1}{4}$ carrot cut in small cubes	$\frac{1}{16}$ tsp. pepper
1 c. potato cubes	

Mix together and place in a casserole; cover. Bake slowly one hour. Serve from casserole.

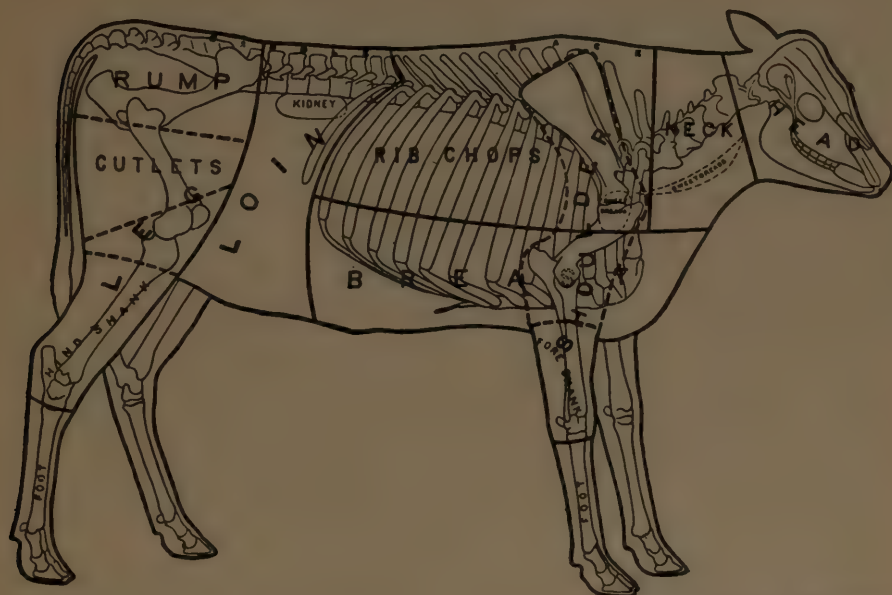
REVIEW QUESTIONS

1. What are the principal kinds of meat used in the United States?
2. Why must meat be kept clean?
3. What is clean meat?
4. Describe the structure of meat.
5. What are the foodstuffs found in meat?
6. What is the chief value of meat as food?
7. What changes take place in meat when it is cooked?
8. What makes meat tough?
9. From what parts of the animal are the tough cuts obtained?
10. How may tender cuts be cooked? How should tough cuts be cooked?
11. Make a plan for dinner in which casserole of beef might be correctly served; roast beef; broiled steak.
12. What other meats might be used in place of the beef in the casserole of beef?

MEAT (*Continued*)

BEEF

Meat from cattle is called beef. After beef is butchered, the carcass is first split lengthwise into two "sides" of beef, then each side is divided crosswise



Courtesy of E. C. Bridgman

AMERICAN MEAT-CUTTING CHART — VEAL

into the "fore quarter" and the "hind quarter." The quarters are divided into the "cuts" or pieces as we buy them in the meat-shop. Different butchers make these cuts in slightly different ways, but in general they are the same.

By looking at the chart showing the cuts of beef one can learn to what section the various cuts belong.

The following are the usual methods of cooking the most common cuts:

Roasting: rib, loin, round, chuck.

Pot-roasting: chuck, rump.

Broiling: porterhouse, Delmonico or club steak, sirloin, T-bone steak.

Soup-making: neck, brisket, leg.

Braising: flank, chuck.

The fireless cooker is very useful in cooking tough meats, because they need long slow cooking if they are to be tender and juicy. Heat coagulates or "sets" the protein in the muscle tubes, and when the meat is cooked at a high temperature the protein becomes tough, just as the egg-white does when an egg is boiled.

When meat is cooked, the object sought is to coagulate quickly the muscle juice in the ends of the tubes so that they are closed and no juice can escape; this process is called "searing." Meat is seared, either by plunging it into boiling water, by placing it in a very hot oven, over hot coals, or in a very hot frying-pan. After the meat is seared, the temperature should be lowered and the meat cooked slowly. When broiling meat, keep the fire very hot and turn the meat every two or three minutes, in order to keep the meat at the proper heat.

Veal is meat from a calf about two months old.

Mutton is meat from a sheep about two years old.

Lamb is meat from a sheep less than one year old.

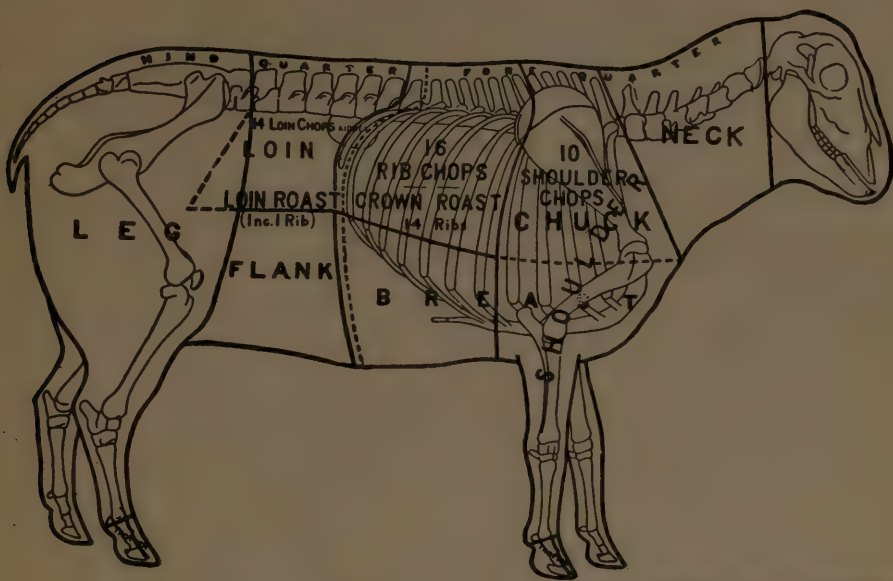
Spring Lamb is from a sheep eight weeks to three months old.

Pork is meat from the hog, and is used in great quantities. The cuts are shown on the chart. Bacon and ham are very generally used because they are both "cured" and can be shipped and easily kept.

Leaf lard is made from leaf fat (layers of pork fat), and is the best quality of lard.

Sausage is made of ground pork scraps, or trimmings; it is sold in bulk, or is stuffed in casings which are made of the treated skin of the intestines of the hog.

Meat contains such a large amount of protein that it is considered an important food for body-building. We do not need to eat as much meat as we usually do,



Courtesy of E. C. Bridgman

AMERICAN MEAT-CUTTING CHART — LAMB

because other foods can supply the necessary protein. There is probably no person who needs meat three times a day. When meats are expensive, well-balanced meals may be planned without the use of much meat.

HOME PROBLEMS AND QUESTIONS

What is the price per pound of the following: round steak, rump-beef roast, chuck-beef roast, porterhouse steak, a whole ham, slice of ham, side of bacon, sliced bacon, mutton chops, veal steak, rib-pork roast?

Is there a slaughter-house in the neighborhood?

Where are the large packing plants from which the local butcher buys meat? What firms manage the largest packing plants in the world?

See if you can find the government inspection stamp on any of the meat which is used in your home. What does this indicate? Ask the butcher.

LABORATORY EXERCISES

MEATS — TOUGH CUTS

SWISS STEAK

Place on a meat-board a piece of steak one inch thick, cut from the round. Wipe the meat with a damp cloth, and pound flour into it, using the dull edge of a heavy saucer or small plate to pound with. Pound on both sides thoroughly. The pounding breaks apart the muscle of the meat, and helps to make it tender.

Have a frying-pan hot; in this place some fat and when it is melted place the meat in the pan. Brown the meat on both sides, and sprinkle it with salt and pepper. Add boiling water to half cover the meat. Tomato juice may be used instead, if desired. Chop onion, green peppers, and carrots, and place over and around the meat. Cover and place in slow oven or fireless cooker. Cook until the meat is tender.

POT ROAST

Use a piece of rump for this. Wipe the meat with a damp cloth, and brown it in hot fat in the frying-pan. Place in a kettle, add boiling water until the meat is half covered. Diced carrots, turnips, onions, or celery may be added if desired. Place in a fireless cooker, or simmer gently on the stove until the meat is tender. For gravy, the water in which the meat is cooked may be thickened or served as it is.

BEEF STEW

1 lb. beef (tough cut)	1 carrot
2 potatoes	$\frac{1}{2}$ onion
Flour	Salt and pepper

Cut beef in one-inch pieces, dredge with flour. Brown the onion, and then the meat, in hot fat in a frying-pan.

If there is fat that can be removed from the meat, this may be used in the frying-pan. Add enough boiling water to nearly cover the meat. Simmer until the meat is almost done, then add the diced vegetables and cook until the vegetables are done. The liquid may be thickened before serving, if desired. If the stew is placed in the fireless cooker the vegetables may be added at first, since it is not desirable to open the cooker before the meat is done.

REVIEW QUESTIONS

1. What is a "side of beef"? A "quarter of beef"? A "cut of beef"?
2. Name some cuts of meat coming from the fore quarter of beef; from the hind quarter.
3. What cuts of beef should be used for broiling? For pot-roasting? For roasting? For braising?
4. What is meant by "searing"? How is meat seared?
5. What is meant when the recipe says "dredge" the meat with flour?
6. What is veal? Mutton? Lamb? Pork?
7. What is "leaf lard"?
8. How is sausage made?
9. Do we need to eat meat three times a day?
10. What foods can sometimes be substituted for meat in the diet?

LABORATORY EXERCISES

SERVE A DINNER

Suggested Menu: Broiled pork chops
 Baked stuffed potatoes
 Creamed onions
 Baking-powder biscuit
 Banana salad

Estimate the cost of the meal.

Discuss order of work.

What dishes will be used?

Would this menu be suitable for a child two years old?

How could it be changed for the child?

Plan, prepare, and serve one dinner at home and write a report of the work. In what ways could the time required for doing the work be shortened?

SOUPS

When meat, bone, and gristle are boiled in water, the liquid that remains after the boiling is called "stock." This is used in making soup.

When stock stands, it sometimes forms a jelly-like mass that is called "gelatine." This gelatine is formed from the connective tissue which is present in the meat, bones, and gristle, and which is soluble in hot water.

Commercial gelatine is usually sold in small packages. It is made from the skin, ligaments, and bones of animals, and is largely used in making desserts and salads. Gelatine is a form of protein, and has some food value.

When meat is prepared for making soups, it is cut into small pieces and put into cold water to allow the juice to soak out of the muscle tubes as much as it will. The extractives are also drawn out of the meat by the water.

Meat stock alone contains very little food value, but by adding milk, vegetables, or bits of meat, we make it much more valuable as a food. Soups made from plain meat stock have a value, however, because the extractives cause the digestive juices to become more active, and it is for this purpose that clear soups are served at the beginning of a meal.

LABORATORY EXERCISES

SOUPS AND GELATINE

SOUP STOCK

Soup stock may be made from fresh meat, bone, and gristle, or it may be made from trimmings and left-over meats. There may be several kinds of meat cooked together to make

the stock. Some housekeepers keep a "soup-kettle" in which scraps of meat, bone, and trimmings are placed. When there is enough in the kettle, water is added and the stock made. Meat scraps must not be kept too long, however.

Bouillon is the cleared stock made from beef. *Consommé* is the cleared stock made from two or three kinds of meat.

Soup stock is used, in combination with other liquids, in soups and gravies, or with vegetables in vegetable soup. If fresh meats are used in making stock, the meat itself should be used in some other way, because it contains about as much protein as fresh meat. It is tasteless, and must be well seasoned or used with highly flavored vegetables. This meat may be used in croquettes, hash, meat pies, and in casserole of vegetables and meat.

BEEF STOCK

2 lb. beef

1 tsp. salt

2 qt. cold water

Cut the meat into small pieces; crack the bone (let the butcher do this when you buy fresh meat); pour the water over this and let stand one hour. Simmer for three hours. Strain and let cool. For bouillon remove the fat from the top of the stock and strain the stock through cheesecloth; season with a bay leaf or cloves, pepper, and salt, and re-heat. Sometimes egg-white is used for clearing bouillon, using white and shell. How could this be done?

VEGETABLE SOUP

2 qt. stock

1 carrot, diced

1 onion, sliced

1 turnip, diced

1 stalk of celery or dried celery leaves

Salt and pepper

Any left-over vegetables may be used. Barley, macaroni, or rice is sometimes added. Add the vegetables to the stock. Simmer gently until vegetables are heated through or cooked.

Experiments: 1. Examine various kinds of gelatine that can be purchased in the store. How do they differ? What is the price per ounce?

2. Place one fourth teaspoon of gelatine in one tablespoon cold water ; let stand five minutes. What has happened? Add two tablespoons boiling water. Does the gelatine dissolve?

3. Add two tablespoons of boiling water to one fourth teaspoon gelatine. What happens? What method should be used in making gelatine dishes?

PERFECTION SALAD

$\frac{1}{2}$ c. sugar	2 tbsp. granulated gelatine
$\frac{1}{2}$ c. cold water	1 tsp. salt
$\frac{1}{2}$ c. vinegar	2 c. sliced celery
2 c. boiling water	1 c. shredded cabbage
Juice of one lemon	3 pimientos, chopped

Soak the gelatine in the cold water for a few minutes. Add the boiling water and sugar. Stir until all the gelatine and sugar are dissolved. Add lemon juice, vinegar, and salt. Let cool until mixture begins to "set", then stir in vegetables. Wet the inside of individual molds with cold water. Pour in gelatine mixture. Keep in cold place until "set." Remove from mold, serve on lettuce with mayonnaise dressing.

LEMON JELLY

1 tbsp. granulated gelatine	$\frac{3}{4}$ c. sugar
$\frac{1}{4}$ c. cold water	$1\frac{1}{2}$ c. boiling water
$\frac{1}{4}$ c. lemon juice	$\frac{1}{8}$ tsp. salt

Follow directions for mixing given under Perfection Salad. Pour mixture at once into large mold. When it is cold and "set", remove from mold and garnish with whipped cream.

REVIEW QUESTIONS

1. What is "stock"?
2. Give directions for making "stock."
3. In what ways is meat stock used?
4. How is bouillon prepared?
5. Of what value in the diet are clear soups?
6. Why should the meat left from stock be used?
7. In what ways may this meat be used?

8. From what is commercial gelatine made?
9. Why should the vegetables not be added to the gelatine mixture until it begins to "set"?
10. Make a plan for a meal in which it would be proper to serve vegetable soup.
11. Make a dinner plan, using lemon jelly as the dessert.
12. Make a plan for a meal in which it would be correct to serve perfection salad.

POULTRY, GAME AND FISH

Poultry is the name given to domestic birds suitable for food, such as chicken, turkey, goose, and duck. Game is the name given to wild birds and animals that are hunted for food, such as quail, partridges, wild ducks, and geese. Pigeons and squabs are classed as game. In the United States game has become very scarce and is little used for food.

Chicken is used more than any other kind of poultry, and can be purchased in the market at any season of the year. A "spring chicken" is a chicken not more than four months old. A "broiler" is a young chicken that weighs about a pound, or a pound and a half. In selecting chickens in the market, it is necessary to know how to tell the age. A young chicken will have smooth yellow legs, and the end of the breast bone will be soft and flexible, while an older bird has scaly legs and a firm breast bone. In a dressed bird, a large number of small pinfeathers indicates that it is young, while long hairs in place of pinfeathers show age in the bird.

The breast or "white meat" of chicken is especially tender because it is composed of short fibers with a small amount of connective tissue and very little fat. Because of the structure of the meat and its low percentage of fat, white meat is easily digested, and is therefore often used in invalid cookery.

Poultry and game are much like meat in food value, and when either is served it takes the place of meat in the meal.

FISH

The flesh of fish is not unlike the flesh of meat, and can be used as a meat substitute.

Fish and other sea foods contain iodine which seems to be needed by the body to keep it in the best condition.

In some sections of this country fish can be obtained fresh, and is best when cooked soon after being caught. Fresh fish is more difficult to keep in good condition than meat, and is therefore not easily shipped. When fresh fish can be purchased, it should be used often to vary the diet. Many kinds of fish are canned, dried, salted, or smoked, and in these forms are found in every local market; but fresh fish is not easily obtained inland—in many cases because there is no demand for it.

Oysters are one form of shellfish used as food. The oyster is protected by a hard shell covering. This shell is usually removed before the oyster is sold in the market. The name "Blue Point", and other special names, formerly indicated the locality where the oysters were grown, but this is no longer the case.

Oysters stand shipping well, and are sold in most localities during the winter months at least. While oysters have little food value, they are much liked for their flavor. Oysters are eaten raw or cooked. They should be cooked at a low temperature to prevent toughening them.

Clams, lobsters, shrimps, crabs, mussels, scallops, and oysters are called shellfish and differ from other fish in being covered with a shell.

LABORATORY EXERCISES

POULTRY AND FISH

To dress a chicken: 1. Remove feathers by pulling them out, after plunging the fowl into boiling water and holding it there for a moment or two. Fowls are sometimes picked without scalding, if the work can be done immediately after they are killed.

2. Singe the plucked fowl by holding it in a flame of gas or burning paper, being sure that all parts are exposed during the process so that all hairs are removed.

3. Cut off the head, if it has not been removed. The neck may be removed by pushing back the skin and cutting it off.

4. Remove the feet by cutting and breaking the legs at the joints.

5. Make an incision one inch above the vent and crosswise between the legs. Draw out the intestines and other organs carefully, cutting away the vent. Remove from the mass the heart, liver, and gizzard, being careful not to break the gall bladder which lies under the liver. Cut the gall bladder away carefully.

6. Remove the skin from around the gizzard; open the gizzard and remove the inner skin and contents.

7. Wash the liver, gizzard, and heart, squeezing the latter to remove any blood. These organs are known as the "giblets."

8. The crop and windpipe may be removed at the neck. Do this without breaking the crop, or tearing the skin at the neck.

9. Remove all pinfeathers with a sharp-pointed, small knife. Remove the oil bag from the tail.

10. Wash the chicken well in cold water, both inside and out. Dry with a cloth. The fowl is now ready to be used for baking.

11. When a fowl is to be cut into pieces, as for stewing, it is usually convenient to remove the wings and legs before removing the intestines and other organs from the body.

Poultry should always be allowed to stand several hours after dressing before it is cooked.

STEWED CHICKEN

Place the pieces of chicken in a kettle and cover with boiling water ; boil a few minutes ; then add one tablespoon salt, and simmer until the meat is tender when pierced with a fork. Remove the chicken to a warm platter and set in a warm place. Add milk to the liquid in which the chicken was cooked. Thicken with flour, and cook for five minutes ; pour over chicken and serve.

Dumplings may be served with the stewed chicken if desired. These are cooked by placing them on top of the pieces of chicken in the kettle, keeping the dough out of the water as far as possible. Cover the kettle tightly. Cook twenty minutes. Remove dumplings and chicken ; thicken gravy and serve. Dumplings of this kind are made like baking-powder biscuits, except that the dough is not so stiff.

SCALLOPED OYSTERS

1 pt. oysters	4 tbsp. butter
3 c. bread crumbs <i>or</i>	Milk
2½ c. cracker crumbs	¼ tsp. pepper
½ tsp. salt	

Look over the oysters carefully, removing any bits of shell or other refuse. Drain the liquor from the oysters by straining it through a wire sieve. Wash the oysters by dipping the sieve into water, or by allowing water from the faucet to run through them. Melt the butter in a frying-pan ; add the crumbs, salt, and pepper. Place a layer of crumbs in a buttered baking-dish, then a layer of oysters, then a layer of crumbs, until the dish is filled, finishing with a layer of crumbs on top. Add enough milk to show on the top at the side of the dish. Bake in a moderate oven (350°–400° F.) forty to fifty minutes.

FRIED OR SAUTÉED FISH

Clean the fish carefully, being sure that all the scales are removed. Split the fish on the under side, lengthwise, and

clean the inside carefully. A large fish can then be cut into pieces of the desired length; a small fish need not be cut. Roll each piece in equal parts of corn meal and flour, or in egg and bread crumbs as for croquettes. Fry in deep fat or sauté in the frying-pan until tender. Tomato sauce may be served with the fish if desired.

REVIEW QUESTIONS

1. What is included under the name poultry?
2. What is included under game?
3. What is a "spring chicken"? A "broiler"?
4. How may the age of a fowl be determined?
5. What is the white meat of a chicken?
6. Is it tender or tough? Explain the structure.
7. What foods should not be used in a meal when chicken is served?
8. In what forms may fish be found in every market?
9. What kinds of fish, fit for food, are caught in the rivers and lakes in this locality?
10. In what ways have you seen fresh fish served, other than fried or sautéed?
11. What is the price of oysters per quart? Per pint?
12. How are oysters kept at the store?
13. Is it economical to serve scalloped oysters and meat in the same meal? Why?

DESSERTS

Desserts may be divided into four large groups: (1) fruits, either fresh, dried, or cooked; (2) puddings; (3) pastry; (4) frozen desserts. As a fifth, cakes may be added.

Elaborate desserts, which require a great length of time spent in preparation, should not be used often in most households, because simple desserts taste just as well and the housekeeper may use her time for more useful work, or for recreation.

In choosing a dessert to use at the end of a meal, one must consider what foods have already been served in the other courses. If every one has had all the food

needed and feels satisfied before dessert is served, it is then a wise plan to omit dessert. When a dessert is served after a heavy meal it should consist of fruit or a gelatine pudding, rather than of pie or a rich pudding. No one should eat pie three times a day, nor every day.

A pie should have a light, flaky, tender crust that is thoroughly baked. Pie crust must be chewed thoroughly, since even the best is hard to digest. It is easier to make tender pie crust from pastry flour, because that contains less gluten and more starch than bread flour. Bread flour may be used, however. Many kinds of fat are used in pie crust, such as lard, butter, vegetable fats, and oils. Fat makes the crust "short" and flaky, and is often called "shortening." The crust is made tender by careful handling, and by folding and rolling several times so that air is folded into the dough. This air, and the steam formed from the water used in the mixture, expand the dough during baking and make the pie crust light.

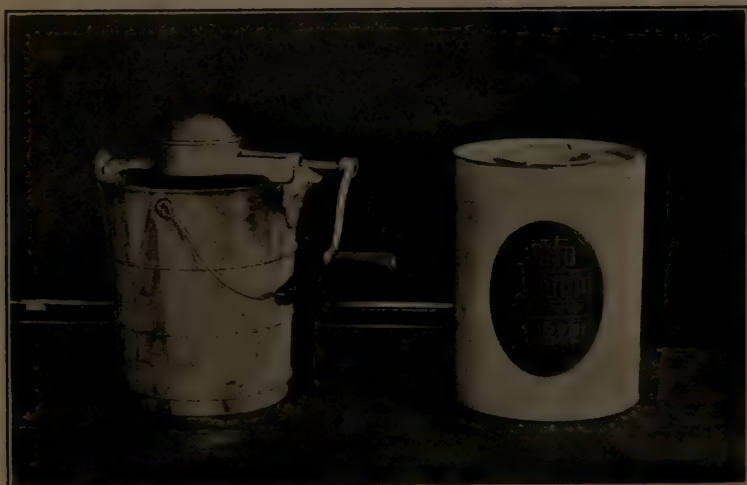
Desserts containing eggs and milk should be served only at the end of a meal when little protein has been eaten in the other courses.

Frozen desserts may be made, mainly of cream, milk, eggs, and sugar, such as plain ice cream, French ice cream, or mousse; or they may be made of water, fruit juice, and sugar, such as sherbet, water ice, or frappé.

There are two kinds of freezers used for making frozen desserts: (1) the freezer with a crank to be turned during the first stages of the freezing; (2) the freezer without any crank, called the vacuum freezer. This freezer is constructed with a double outside wall forming an air space between; in the center is the can for holding the mixture to be frozen, and between this and the outside wall is the space for holding the salt and

ice. In the bottom of the freezer is an opening through which the ice is packed around the center compartment.

Desserts are frozen by the use of ice mixed with coarse or "rock" salt in the proportion, ordinarily, of



TWO TYPES OF ICE-CREAM FREEZERS

THE ONE AT THE RIGHT IS A VACUUM FREEZER

one part of salt to three parts of cracked ice. When ice melts, heat is absorbed from the surrounding materials. When salt is added, the ice melts at a lower temperature and a greater amount of heat is absorbed. The freezing of the mixture, in a can surrounded by ice, is brought about because the ice and salt absorb the heat from the contents of the can.

HOME PROBLEMS AND QUESTIONS

Plan a dinner, consisting of meat, vegetables, and salad, that is suitable for the season.

Plan one, consisting of meat, vegetables, salad, and dessert, suitable for the season.

Plan a "one-dish" meal.

Would other foods need to be added for the small child? If so, what would you add?

Plan a dinner in which custard pie might be served.

The following dinner will be served during the next laboratory period :

Bouillon, wafers

Swiss steak with gravy

Candied sweet potatoes

Salad: green beans, chopped onion and parsley, with French dressing

Lemon gelatine with whipped cream

Date cakes

Make a plan for preparing the dinner. What proportions of each recipe should be made for the number to be served?

Make a list of the food, with the amount that will be needed for the meal. Give the order in which the food is to be prepared. What dishes will be needed for serving the meal in the English style? Bring the plan to class for discussion.

Find in the dictionary or encyclopedia what you can about spices, such as nutmeg, cloves, cinnamon, mustard, and ginger; also about pepper and salt. How is vinegar made? From what is extract of vanilla made?

LABORATORY EXERCISES

DESSERTS

PLAIN PASTRY

1 c. flour

$\frac{1}{2}$ tsp. salt

$\frac{1}{3}$ c. lard

Ice water

Sift the flour before measuring it. Add salt to flour, and sift again. Cut in shortening with two knives. Add just enough water to make a dough that can be rolled. Chill, roll out, fold, roll again, repeating two or three times.

When a crust is to be baked without a filling, the dough may be placed on the outside of the pie-pan turned upside down. Prick the crust well with a fork to keep it from blistering. A pie crust should be baked in a hot oven (450° – 550° F.). Care must be taken, however, not to burn the edges.

Let members of the class suggest fillings for a one-crust pie. Perhaps some can bring a good recipe that may be used in class.

Fruit pies are more easily digested if they are made with only a top crust. The fruit is placed in a deep pie-pan of earthenware, enamel ware, or glass. The crust is then placed over the top, pressed down well on the edge, and baked, at 400° – 450° F. When two crusts are used, the lower crust must be baked thoroughly and the pie should be removed from the pan as soon as it is taken from the oven. The steam which collects on the pan has a tendency to make the lower crust soggy.

This is a good pudding to use for Thanksgiving or Christmas:

STEAMED PUDDING

2 c. bread crumbs	$\frac{1}{2}$ c. suet
$\frac{1}{2}$ tsp. soda	$\frac{1}{2}$ c. molasses
$\frac{1}{8}$ tsp. cloves	1 egg
$\frac{1}{8}$ tsp. cinnamon	$\frac{3}{4}$ c. milk
$\frac{1}{4}$ tsp. salt	$\frac{1}{2}$ c. currants
$\frac{1}{2}$ c. raisins	

Mix a little flour with the suet, then chop it in a chopping-bowl with a chopping-knife, or put it through the meat-grinder. Beat the egg and add the milk. Wash the raisins and currants in a wire strainer by running cold water through them; dry on a towel; cut the raisins in halves. Mix the raisins and currants with a little flour, as this makes them mix with the dough more easily. Add crumbs, spices, soda, currants, raisins, and suet to the milk-and-egg mixture. Then add the molasses. Pour into a well greased pudding mold. Steam two hours. Remove lid of pudding mold, place pud-

ding in oven and bake for a few minutes. Serve with any kind of sauce desired.

HARD SAUCE

$\frac{1}{2}$ c. butter 1 tsp. vanilla
1 c. powdered sugar

Cream the butter and add sugar gradually, beating until the sauce is light and creamy; add flavoring. Set in a cool place until served.

PUDDING SAUCE

$\frac{1}{2}$ c. sugar 3 tbsp. butter
 $\frac{3}{4}$ c. water $\frac{1}{4}$ tsp. vanilla
A little cinnamon or nutmeg may be added

Boil together until the sauce is of the desired thickness. This may be varied by pouring the hot liquid slowly over a well beaten egg. Beat mixture thoroughly. Why should the mixture be poured over the egg slowly?

If there is an ice-cream manufacturing plant in the neighborhood, visit it to see how ice cream is made commercially. How is brick ice cream made? Have you seen ice cream frozen in other shapes?

Serve the dinner already planned, inviting guests if possible.

Plan other company dinners.

Plan a menu for a Thanksgiving dinner.

Plan a menu for a Christmas dinner.

Discuss the cost of all meals served.

REVIEW QUESTIONS

1. Into what groups may desserts be divided?
2. Should elaborate desserts be served often in most homes? Why?
3. When should pie be eaten?
4. What is "shortening"?
5. State the characteristics of a good pie crust.
6. What makes the crust "light"?
7. What kind of desserts may be served at the end of a heavy meal?

8. What materials are used for freezing desserts? In what proportions?
9. Explain the freezing of ice cream.
10. How is a smooth texture obtained in a frozen mixture?

THE DAILY MEALS OF THE FAMILY GROUP

The three meals that are eaten daily by the family group have been studied separately, but before leaving the subject it is necessary to consider the making of the plans for the day and for the week. One meal may be planned correctly, but the diet is not well balanced unless the three meals for each and every day furnish the proper amount of foodstuffs for body-building and regulating and for warmth and energy, with the protective foods furnishing the vitamins and minerals.

How, then, shall one know when enough of the right kind of food is eaten? Persons who have studied the science of nutrition have set standards to follow that are a great help to the housekeeper.

Heat and energy furnished by a given amount of food are measured by the scientist, and the unit of measure that he uses is called a calorie. A calorie is the amount of heat required to raise the temperature of one pound of water four degrees Fahrenheit, or a kilogram of water one degree Centigrade.

By placing food in a food calorimeter, a machine designed for the purpose, it is possible to measure how much heat will be produced from a certain amount of food when it is burned, or oxidized. In a machine called a respiration calorimeter, it is possible to measure the amount of warmth and energy used by a person in doing work, or in merely keeping the body warm and active. Even when quiet, a certain amount of energy is being used by the body, as for example in breathing.

Since, then, the scientist is able to measure in calories the amount of heat required by the body, and is also able to measure how many calories are furnished by portions of different foods, it becomes possible for him to set a standard for the daily requirements of food. This requirement varies with the age, the size, the weight, and the work being done by the person eating the food.

The following is one standard of food requirements for healthy children :

FOOD ALLOWANCES FOR HEALTHY CHILDREN¹

AGE, YEARS	CALORIES PER DAY		AGE, YEARS	CALORIES PER DAY	
	Boys	Girls		Boys	Girls
Under 2	900-1200	900-1200	9-10	1700-2000	1550-1850
2-3	1000-1300	980-1280	10-11	1900-2200	1650-1950
3-4	1100-1400	1060-1360	11-12	2100-2400	1750-2050
4-5	1200-1500	1140-1440	12-13	2300-2700	1850-2150
5-6	1300-1600	1220-1520	13-14	2500-2900	1950-2250
6-7	1400-1700	1300-1600	14-15	2600-3100	2050-2350
7-8	1500-1800	1380-1680	15-16	2700-3300	2150-2450
8-9	1600-1900	1460-1760	16-17	2700-3400	2250-2550

A list of the number of calories furnished by a pound of the different foods has been made and published in a bulletin entitled "The Chemical Composition of American Food Materials", used in the section on "Vegetables." It is difficult, however, to learn from this bulletin, without the use of a great deal of arithmetic, just how much food should be used to furnish a certain number of calories, and for this reason there have

¹ Publication 120, "Food Allowances for Healthy Children", from Association for Improving the Conditions of the Poor, New York City.

been prepared convenient tables of standard portions of the dishes ordinarily used. A "standard portion" is the amount needed to furnish 100 calories and it is sometimes called a "100-calorie portion."

At the end of this section will be found a list of 100-calorie portions of foods.

The following method should be used when calculating the number of calories that should be served in a meal:

1. Make a list of the foods to be used.
2. Decide on the size of the portion of each to be served — as, for example, whether a whole orange or one half orange is the amount to be used.
3. Look at the table of "100-calorie portions" and find the size of the portion of each food needed to furnish 100 calories to the body.
4. If the portion furnishing 100 calories is more than you expect to serve, then multiply 100 by one half, one third, or by whatever proportion of the "100-calorie portion" is to be served, to determine the number of calories being supplied. For example, if one cup of cooked oatmeal is a "100-calorie portion" and only a half cup of cooked oatmeal is being served, it will be necessary to multiply 100 by $\frac{1}{2}$ to determine the number of calories served.
5. If the portion furnishing 100 calories is less than the amount served, then 100 must be multiplied by the number of times the portion is to be used to make the desired serving. For example, one half baked apple is a "100-calorie portion", but if a whole baked apple is to be served, it will be necessary to multiply 100 by 2 to determine the number of calories supplied.

The following is an example of the way of working out the number of calories served for breakfast:

BREAKFAST

FOOD	AMOUNT SERVED	CALORIES
Orange	$\frac{1}{2}$ orange	50
Whole milk to drink . . .	$\frac{3}{4}$ measuring cup	100
Oatmeal, cooked	$\frac{1}{2}$ cup	50
Cream, this for oatmeal . .	$\frac{1}{4}$ cup	100
Sugar for oatmeal	$\frac{1}{2}$ scant tablespoonful	25
Bread	1 slice, $\frac{1}{2}$ in. thick	100
Butter	$\frac{1}{2}$ tablespoonful	50
Total calories		475

Each meal may be worked out in the same way for each member of the family. The total amount of the foods needed for the entire family may be found by adding together the individual portions. No house-keeper will need to work this out every day, because after doing it several times she can estimate by the amount of food she is serving whether enough calories are being supplied in the diet.

Other necessary points to be observed in planning the day's diet are:

1. Furnish variety in the diet by serving different kinds of food or by changing the method of preparation.

2. It is necessary to have all the foodstuffs represented in the day's diet, and it is best to have them in good proportions in each meal.

3. Foods to be served together in the same meal should be of contrasting flavors — for example, rice cooked as a vegetable should be served with a strong-flavored vegetable like tomatoes.

4. A meal should not be too "dry", nor should all of the foods be creamed or moist in texture — for example, mashed potatoes are better served with a creamed-meat dish or with a meat served with gravy than with baked ham without sauce. Two creamed

vegetables should not be served in the same meal, but rather one creamed with a boiled or baked vegetable.

5. An attractive meal is enjoyed by the family. To be attractive it must be well cooked and served, with the foods combined properly in regard to flavor and appearance. The colors of foods in the same meal should harmonize, and when artistically combined they make the meal more attractive. The table decorations as well as the foods may carry out a color scheme.

6. It is always wise to consider the cost, and to remember that the most expensive foods often have no greater food value than cheaper kinds. One fourth to one half of the average income has to be spent for food, and when the housekeeper is careless in selecting the food, more money than is necessary may be spent.

7. It is necessary to change the diet to suit the season of the year. The body requires less food for warmth in summer than in winter, and there is less used for muscular energy, therefore foods containing large amounts of fat are not required. Some of the foods to be avoided in summer are hot breads, fat meats, pastries, rich cakes, sauces, and gravies.

8. It is very important to know that children need simple, well cooked foods, that milk is essential for every child, that butter is better for the child than a butter substitute because the butter contains vitamins, that fruits and cereals are essential, and that eggs, milk, and cereals are better to use than a large quantity of meat.

9. No one can balance meals properly without knowing which foods contain the foodstuffs needed.

HOME PROBLEMS AND QUESTIONS

From books on Nutrition or bulletins on Planning Meals find a table giving the number of calories required daily by your father and mother and the older members

of your family. How many calories per day will your family require? What other foods besides meat may be used to supply protein?

Make a list of foods you eat for one day and estimate the number of calories you have eaten. Have you eaten the number required? Which foods supplied the protein? Which the fat and carbohydrates? Which supplied mineral matter? Which vitamins? Did you eat foods from each of the five food groups given in the list on page 50?

Plan meals that might be used by your family for a day in summer, estimating the number of calories.

Plan the meals for a day in winter, estimating the number of calories.

Make a list of groups of vegetables that may correctly be served together.

Estimate the cost of the following meal for six persons :

Broiled mutton chops
Baked stuffed potatoes
Tomato salad with French dressing
Sliced peaches with cream
Sponge cake

Plan the menu and the table decorations for a "Yellow Luncheon" to be served in winter.

LABORATORY EXERCISES

FROZEN DESSERTS

VANILLA ICE CREAM

1 qt. cream 1 tsp. vanilla
 $\frac{3}{4}$ c. sugar

Wash and scald the can, cover, and dasher of the freezer. Carefully place the can in the freezer. Place the ice in a heavy cloth sack and pound until it is broken into very small

pieces. Crush the rock salt or coarse salt. Pack the freezer with alternating layers of ice and salt, until the ice is just below the top of the can. Have the ice-cream mixture ready and pour it into the can; place the dasher in the can; cover; add ice until the can is covered. Turn the dasher slowly and steadily until it will not turn any more. Remove ice and salt from top of can; wipe off carefully; remove lid from can; take out dasher carefully; cover can and put a stopper in hole in cover. Drain off all water from the tub, re-pack with ice and salt, using a little less salt (about four parts ice to one part salt). Cover the can with ice; cover freezer; set in cool place and let stand several hours.

When using the vacuum freezer the following method should be followed: Wash and scald the freezer, and chill with cold water. Fill the center can three fourths full of the cream mixture, and place the cover on the can tightly so that it will not leak. Invert the freezer and fill ice compartment with the ice and salt, packing tightly; pour in one cupful of cold water, then cover securely. Let can stand inverted for twenty minutes, then turn and open inner container and with a spoon quickly scrape down the mixture that has frozen to the sides of the can. Cover the can, invert it, and let it stand twenty minutes. Again open and scrape down sides of cream can, cover, and invert until ready to serve. Why is the mixture scraped from the sides of the can during freezing?

LEMON ICE

4 c. water

2 c. sugar

 $\frac{3}{4}$ c. lemon juice

Boil sugar and water together for five minutes. Add lemon juice. Strain if not clear. Freeze.

CHOCOLATE MOUSSE

1 pt. cream

4 oz. chocolate

 $\frac{1}{2}$ c. powdered sugar $\frac{1}{4}$ tsp. salt

Cut the chocolate into small pieces, or grate it. Place in a small saucepan in a pan of boiling water until it is melted. Whip the cream; add sugar, salt, and melted chocolate. Turn

into a mold, and pack the mold in a pan of ice and salt. Let it stand five hours.

Smaller portions of the recipes may be made if desired: then the freezing will require less time.

100-CALORIE PORTIONS

While the mixtures are freezing, let the class examine 100-calorie portions of the following foods that have been prepared by the teacher: eggs, beefsteak, bacon, bread, butter, oatmeal, milk, cheese, potatoes, dried beans, apples, onions, carrots, rice, macaroni, olive oil, cotton-seed oil.

REVIEW QUESTIONS

1. Define the term "calorie."
2. What is a "standard portion"? By what other name is it sometimes called?
3. How do scientists determine how many calories we need each day?
4. Which of the foodstuffs yield warmth and energy? Which of these are used by the body in other ways than for the production of warmth and energy?
5. How should the foodstuffs be distributed in the meals eaten in one day?
6. Can you explain why the boy twelve years old requires a greater number of calories per day than the woman ninety years old?
7. Are the following meals for a day well planned? Explain the reason for your answer.

BREAKFASTS

(1)	(2)
Eggs and bacon	Baked apple
Cocoa	Oatmeal
Hot baking-powder biscuit	Toast
	Cocoa

LUNCHEONS

(1)	(2)
Cream soup	Bouillon
Cheese strata	Apple salad with cooked dressing
Salmon salad	Lemon gelatine
Bread and butter	Bread and butter

DINNERS

(1)

Roast beef
Baked beans
Lettuce with French dressing
Rice pudding
Bread and butter

(2)

Baked stuffed potatoes
Buttered carrots
Fresh celery
Apple pie
Cake

8. What foods is it well to avoid in hot weather? Why?

9. Name some foods that may be served to small children; some that should not be served.

10. What are the characteristics of an attractive meal?

100-CALORIE PORTIONS OF UNCOOKED FOODS

FOOD	WEIGHT IN OUNCES	MEASURE	REMARKS
Apple	7.4	1	large size
Bacon	0.6	slice	$4\frac{1}{2}$ by $1\frac{1}{2}$ by $\frac{1}{16}$ inches
Banana	5.5	1	large size
Beef, round steak .	2.2	1 serving	$2\frac{1}{2}$ by $2\frac{3}{4}$ by $\frac{1}{2}$ inches
Butter	0.5	1 tablespoon	
Cabbage	11.2	5 cups	shredded
Carrot	10.0	1	length $6\frac{1}{2}$, diameter 2 inches
Cauliflower	11.5	2 servings	
Cheese, American .	0.8	cube	$1\frac{1}{8}$ inches
Chicken	3.5	1 serving	large
Corn on cob	9.0	2 ears	6 inches long
Cotton-seed oil . .	0.4	1 tablespoon	
Cream, 40 per cent		2 tablespoons	
Dates, dried	1.0	4 or 5	
Eggs	2.4	1	very large
Figs, dried	1.0	1	
Flour, white	1.0	$4\frac{1}{2}$ tablespoons	
Grapefruit	8.0	1 serving	$\frac{1}{2}$ small
Lettuce	18.5	2 heads	large size
Macaroni	1.0	$\frac{1}{4}$ cup	broken into 1-inch pieces
Milk, whole	5.0	$\frac{3}{4}$ cup	
Mutton chops . . .	1.0	1 chop	

100-CALORIE PORTIONS OF UNCOOKED FOODS—*Continued*

FOOD	WEIGHT IN OUNCES	MEASURE	REMARKS
Navy beans . . .	1.0	2 tablespoons	dried
Oatmeal	1.0	$\frac{1}{4}$ cup	rolled
Olive oil	0.5	1 tablespoon	
Onions	7.0	4	medium-sized
Orange	9.5	1	large
Peach	10.5	3	medium-sized
Peas, green . . .	3.5	$\frac{3}{4}$ cup	shelled
Rice	1.0	2 tablespoons	
String beans . . .	8.5	$2\frac{1}{4}$ cups	fresh
Sugar	0.9	2 tablespoons	scant
Sweet potato . . .	3.6	$\frac{1}{2}$ potato	medium-sized
Tomato, fresh . .	15.5	2 or 3	medium-sized

100-CALORIE PORTIONS OF COOKED FOODS

FOOD	WEIGHT IN OUNCES	MEASURE	REMARKS
Apple, baked . . .	2.3	$\frac{1}{2}$ apple	large size, 2 tbsp. sugar
Baking-powder biscuit	1.2	2 biscuits	small
Bread, white, baker's .	1.0	1 slice	$\frac{1}{2}$ inch thick
Cocoa	5.5	$\frac{3}{8}$ cup	
Corn, canned . . .	3.5	1 serving	
Cornflakes	1.0	1 cup	heaping
Crackers (Graham) .	0.75	3	
Crackers (soda) . . .	0.75	3	
Custard	4.29	1 cup	
French dressing . . .	0.6	$1\frac{1}{2}$ tablespoons	
Mayonnaise dressing .	0.5	1 tablespoon	
Potato, baked . . .	3.0	1	medium-sized
Potato, mashed . . .	3.5	$\frac{1}{2}$ cup	scant
Oatmeal, cooked . . .	7.9	1 cup	
Rice pudding	2.65	1 serving	small
Saltine cracker . . .	0.8	8 wafers	
Shredded wheat . . .	0.9	1 biscuit	
Sponge cake	0.9	piece	$1\frac{1}{2}$ by $1\frac{1}{2}$ by 2 in.

THE PRESERVATION OF FOODS

Many kinds of fruit and vegetables, all meat, fish, and poultry, soon spoil unless preserved in some way. The spoiling of food is brought about by molds, yeast, and bacteria, which are called microorganisms. Yeast and bacteria are so small that they can be seen only through a powerful microscope, but molds can be seen without using a microscope. All of these microorganisms require food, warmth, and moisture for growth. They find food and moisture in many of our foods, and because they live in the food it changes and often spoils.

Food is preserved either by killing the microorganisms or by hindering their growth. There are four methods used: (1) by keeping food at a low temperature, (2) by drying, (3) by the use of preservatives, and (4) by sterilization.

Foods in cold storage are kept at such a low temperature that the growth of the microorganisms is hindered. Such foods as meat, eggs, green vegetables, and fruit may be kept in this way for different lengths of time without spoiling.

Drying is used for preserving certain fruits and vegetables, meat, and fish. The dried product lacks the moisture required by the microorganisms for growth; therefore their action in the food is hindered.

Preservatives are materials used to hinder the growth or to kill microorganisms. Sugar in quantity, salt, vinegar, and spices are harmless preservatives. Saltpeter and smoke are also used. There are also harmful substances that will preserve the food, but which are not healthful to use, such as formaldehyde, benzoic and salicylic acids.

The best method for preserving food is to kill the

microorganisms by the use of heat. This process is called "sterilization." In canning, the food is sterilized and then sealed in sterilized containers so that no more



GIRLS' CLUB EXHIBIT OF CANNED PRODUCTS
(At the Indiana State Fair)

THE PRIZES HAVE BEEN AWARDED AND THE RIBBONS TIED ON THE CANS

microorganisms can reach it from the air. Fruits, vegetables, meats, fish, and poultry may be preserved by this method.

LABORATORY EXERCISES

PRESERVATION OF FRUIT

MARMALADES

The general rule for the proportion of ingredients in marmalades is as follows :

Use one half as much sugar as fruit, by weight.

Use three cups of water to each pound of sugar.

Make orange marmalade.

ORANGE MARMALADE

1½ doz. oranges	Water
6 lemons	Sugar

Wash fruit; slice in very thin pieces without removing skins; remove seeds; cut into small pieces. Weigh the fruit, calculate the sugar that is needed; calculate the water that is needed. Place the water over the fruit and let it stand twenty-four hours. Boil gently for two hours, add sugar, and boil until the syrup is as thick as desired (usually about one hour). Place in small sterilized jars or glasses; set aside to cool.

When the marmalade is cool, melt paraffin and pour over the top; cover the jars or glasses with lids or paper.

GRAPE CONSERVE

2 qts. grape juice	2 lbs. seeded raisins
3 lbs. granulated sugar	1 lb. English walnut meats

Boil the grape juice with the raisins and sugar, until it thickens when a drop is placed on a cool saucer. Add walnuts, chopped fine. Cook a few minutes; place in sterilized jars or glasses. Cover the conserve with paraffin when it is cold.

GRAPE JUICE

10 lbs. Concord grapes	2 qts. water
2 lbs. sugar	

Wash the grapes and remove them from the stems, add the water; boil until the skins are soft. Strain through a wet jelly-bag. Re-heat the juice and add the sugar; boil for two or three minutes. Pour into hot sterilized jars or bottles; seal. When corks are used on the top of bottles, seal by using paraffin. This juice may be made in the fall, and the conserve made during the winter.

The grapes left in the jelly-bag may be run through a wire sieve, and the pulp added to the grape conserve, if the conserve is to be made at the same time as the grape juice. If not, the pulp may have sugar added and be boiled until thickened, and used as grape butter.

SWEET PICKLED PEACHES

7 lbs. peaches (after stones are removed)	2 oz. cinnamon
	1 qt. vinegar
3½ lbs. sugar	2 oz. cloves

Make a syrup of the sugar, vinegar, stick cinnamon, and cloves; boil until it is thickened. Cut peaches in halves. Add peaches and cook until they are tender. Remove each piece with a spoon and pack in a sterilized jar; boil the syrup until it is thick, and pour it over the fruit.

REVIEW QUESTIONS

1. What causes the spoiling of fruits, vegetables, and meats?
2. How is food preserved?
3. What foods are kept in cold storage?
4. What foods may be dried?
5. Name the materials that are used to preserve food.
6. What is the method of preservation used in making orange marmalade? Sweet pickled peaches?
7. What is meant by sterilization?
8. What is a sterilized jar? (See section on Jelly-making.)
9. Why must the sterilized jars be used while they are hot, and without wiping them out with a towel?
10. Which method of preservation is the best to use for food when it must be kept for long periods?

CANNING

Canning may be done in two ways:

1. *Open-kettle method*, when the food is cooked until it is tender and sterilized, and is then put in sterilized jars and immediately sealed. This is the oldest method of canning foods.

2. *Cold-pack method*, when the food is packed in jars, the jar filled with liquid, — which may be syrup, water, or broth, — the rubber adjusted to the can, the cover placed in position, but only partly screwed or clamped on, and the jar placed in a cooker in which the

food will be sterilized and cooked until tender. The jar is then removed from the cooker and sealed at once.

Cookers used for canning by the cold-pack process are (1) the steam-pressure cooker, (2) the steam cooker, and (3) the hot-water bath cooker, the last being the most commonly used. This cooker can be made at home by using a wash-boiler or other container that has



TYPES OF CANNERS

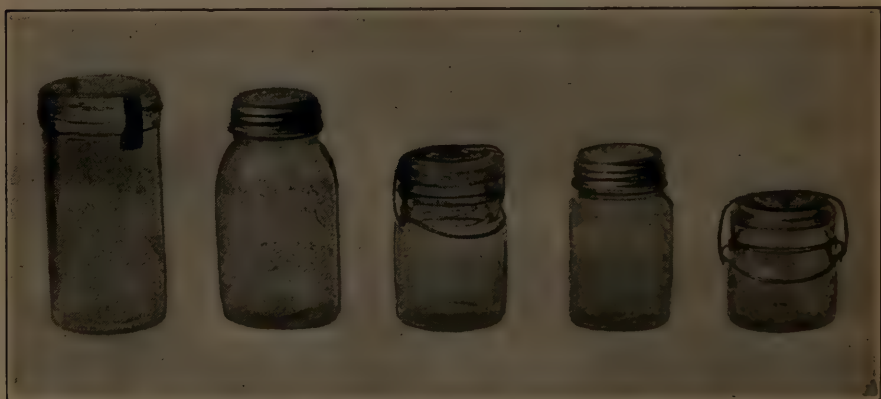
LEFT TO RIGHT: HOT-WATER BATH AND FALSE BOTTOM, STEAM COOKER, PRESSURE COOKER

a lid and a false bottom, or rack, to raise the jars at least three quarters of an inch or an inch off the bottom of the container. The steam-pressure cooker and the steam cooker are manufactured in different types.

Canning can be done in the shortest time with the pressure cooker. Both the steam-pressure cooker and the steam cooker can be used for other kinds of cookery than canning, which makes them comparatively less expensive.

There are numerous types of jars that may be used, and any type is satisfactory when the cover fits well and is in a sanitary condition. Many old screw-top jars are not fit to use unless new lids are purchased,

because dirt cannot be cleaned from the crevices when it has collected in the old lids. In buying new jars, it is better to select those with glass lids and a large "mouth" or opening. Tin cans may be used instead of glass, but any food that will keep in tin will be more easily and safely canned in glass. Tin is used in commercial canning, because tin containers can be more easily packed and shipped.



TYPES OF JARS USED IN CANNING

Good can-rubbers are necessary if the products placed in the cans are to keep well. Rubbers should be tested before being used, by stretching them to see if they will break, and by doubling them together and pressing at the fold to see whether the rubber will crack. Good rubbers will not be affected by either test.

Select for canning, firm fresh fruit that is not over-ripe, vegetables that are fresh and crisp, and meat that is in perfect condition. If poor products are used, the results will be poor.

Vegetables and meat are most successfully canned by the cold-pack method, and it is now considered safer to can them with a pressure cooker. Fruits keep their shape and color better when canned by the cold-pack method, but the open-kettle method may be used.

On the farm there are often fruits and vegetables, and perhaps meat, that would be wasted if not canned or preserved in other ways, to be used during the months when such foods are not available or are "out of season." When vegetables and fruits must be purchased for canning, the cost of the canned product may be higher than that of the commercially canned product; yet many people like to can such foods, especially fruits, because they prefer the flavor of the home-canned products. It is never a wise plan to can more foods than will be needed or used.

Canned products should be kept in a cool, dry place, preferably dark, since the color of some foods fades in the light. When canned foods are kept in a light place the jars may be wrapped in paper. Gummed labels may be used on jars of fruit and vegetables when wrapped, the label stating just what is in the can. Some housekeepers label all of their cans. This is not necessary, however, if the different products are kept in order in the storage cupboards or closets, for the edges of the shelves may be labeled to indicate the space for each product.

Canned products will spoil if air gets into the can or if sterilization has not been perfect. When there is the slightest doubt about the quality of a canned product, it should be thrown away, since such foods are often very dangerous to eat.

LABORATORY EXERCISES

CANNING FRUITS AND VEGETABLES

To can pears by the cold-pack method: Wash the pears, peel, cut into halves, and remove the cores. Place in a clean, hot, tested jar, packing carefully. Over the pears pour boiling syrup until the can is filled to within one fourth inch of top; adjust lid and partially seal. Place

can in hot-water bath cooker, having the water deep enough to come one inch above the top of the can. The time for boiling, or "processing" as it is called, is given in the table at the end of the lesson. Remove can from cooker and seal at once. Follow the directions about removing the can which come with the pressure cooker. Never remove the lid from the can after processing. Turn the can upside down, so that it can be observed for leakage (which means a poor seal) and place where there is no draft. Lay a towel over the cans until they are partly cooled. This will prevent any chance of a draft reaching the hot can and causing it to crack. When cold, jars may be wrapped in paper and stored, or placed in a dark, cool, dry place without wrapping.

To test a jar: Fill the jar half full of water. Test the can-rubber. Place the rubber and lid on can. Seal. Turn can upside down. If it does not leak after standing a few minutes it is in good condition to use for canning. When using the jar, be sure that the same lid with which it was tested is replaced on the jar. If a jar leaks, remove the lid and test with another lid. In using glass lids there sometimes will be found a rough spot on the lid or on the jar that may be removed by scraping with a knife, after which the fit will be perfect.

If jars are heated before using, then hot syrup, water, or broth may be poured into them without cracking the jar, and the jar may be placed in hot water in the water bath, which means a saving of time in cooking.

SYRUP FOR CANNING

Use three cups of sugar to two cups of water, boiling until as thick as desired. Usually for canning fruit by the method given for canning pears, a medium thick syrup would be best to use. A medium thick syrup is one that has begun to thicken and becomes sticky when cooled on the spoon. For very sour fruits a thicker syrup should be used.

To can tomatoes by the cold-pack method: Scald or "blanch" tomatoes $1\frac{1}{2}$ minutes. The easier way to do this is to place the tomatoes in a frying-basket and set the



A CANNING-CLUB WINNER
WITH HER EXHIBIT OF CANNED PRODUCTS

basket into boiling water. Lift out the basket and dip at once into cold water. Remove from water, remove skins and stem-ends. Pack tightly into tested jars, pressing down gently but firmly. This will cause enough juice to form in the can so that no boiling water need be added. Add 1 teaspoon salt to each quart. Adjust rubber and lid, partially seal. Place in hot-water bath, steam cooker, or pressure cooker. Cook for the required length of time, as given in the table at end of lesson. For finishing the canning, follow directions given in the recipe for canning pears.

All vegetables must be blanched, then cold-dipped before packing in cans. This reduces the bulk, does away with objectionable flavors and makes the color better. In canning most vegetables, it is necessary to add boiling water to fill the can after the food is packed in the can. The can should be filled to within a quarter inch of the top.

TIME TABLES ¹

Table 1 — Time required for blanching and processing fruits.

PRODUCT	Glass Jar	Tin Can	Blanch	Water Bath or Steam Cooker	STEAM PRESSURE
					5 lbs.
		No. Can	Min.	Min.	Min.
Apples	pt. or qt.	2, 2½, 3	1½	20	10
Apricots	pt. or qt.	2, 2½, 3	1	20-30	10
Blackberries, other berries	pt. or qt.	2, 2½, 3		15-20	10
Cherries	pt. or qt.	2, 2½, 3		25	10
Currants	pt. or qt.	2, 2½, 3		10-20	10
Gooseberries	pt. or qt.	2, 2½, 3		10-20	10
Grapes	pt. or qt.	2, 2½, 3		10-20	10
Peaches	pt. or qt.	2, 2½, 3	1	20-30	10
Pears	pt. or qt.	2, 2½, 3	4-8 in syrup	20-30	10
Pineapple	pt. or qt.	2, 2½, 3		30	10
Plums	pt. or qt.	2, 2½, 3		15-30	12
Rhubarb	pt. or qt.	2, 2½, 3	1	20-30	10
Strawberries	pt. or qt.	2, 2½, 3		10-20	10

¹ From Bulletin No. 132, "Canning Fruits and Vegetables", issued by the Department of Agricultural Extension, Purdue University, La Fayette, Indiana.

Table 2 — Time required for blanching and processing vegetables.

PRODUCT	Glass Jar	Tin Can	Blanch	Water Bath or Steam Cooker	STEAM PRESSURE		
					5 lbs.	10 lbs.	15 lbs.
		No. Can	Min.	Min.	Min.	Min.	Min.
Asparagus . . .	pt.	2	4			40	
Beans, string . .	pt. or qt.	2	3-5 water 5-10 steam			40-50	
Beans, Lima . . .	pt. or qt.	2	5-10 steam			60	
Beets	pt. or qt.	2	5-10	180	60	40	
Carrots	pt. or qt.	2	3-5	180	60	40	
Corn	pt.	2	1-5				80-90
Greens	pt. or qt.	2	4 water 15 steam			90	35
Okra	pt.	2	6-8			40	
Peas	pt.	2	3-8			50	
Peppers, pimientos .	$\frac{1}{2}$ pt., pt.	1, 2	6-8 oven	30			
Pumpkin	pt. or qt.	2	10-15 steam	120-300		40-60	
Spinach	pt. or qt.	2	4 water 15-steam			90	35
Squash	pt. or qt.	2	10-15 steam	120-300		40-60	
Tomatoes	pt. or qt.	2, 2 $\frac{1}{2}$, 3	1	25-30	15	10	
Vegetable mixture .	pt. or qt.	2				40	30

NOTE. — Products canned in quarts and large sized tin cans will require longer period of processing than those canned in pints and No. 2 cans; hence the variation in time of processing given in above tables.

REVIEW QUESTIONS

1. Name the two methods used for canning fruits, vegetables, and meats.
2. Which is the older method? The better method?
3. Name the types of cookers that may be used in canning. In which can the processing be done most rapidly?
4. What are the requirements of a jar used for canning?
5. What type of jar is best to purchase?
6. What is the price per dozen of pint jars? Of quart jars? Of half-pint jars?
7. Is it advisable to use tin cans for home canning?
8. State the method for testing rubbers.
9. How should a jar be tested before using?
10. What should be the quality of fruits and vegetables selected for canning?
11. What is meant by the term "processing"? "Blanching"?
12. Why must the lids never be removed from the cans after processing?

JELLY-MAKING

Jelly is made from the juice of fruits. Good jelly is clear, of a pleasing color, tender, and firm enough to keep its shape when turned out of the mold. It should not, however, be so stiff that it does not "quiver."

Fruit juice can be made into jelly when it contains two substances, (1) pectin and (2) acid. All fruits do not contain these in sufficient amounts to make good jelly; and often it is necessary to combine the juices of two fruits before the juice will "jell." Sugar helps to make the juice form jelly, but unless pectin and acid are present, no amount of sugar will have that effect.

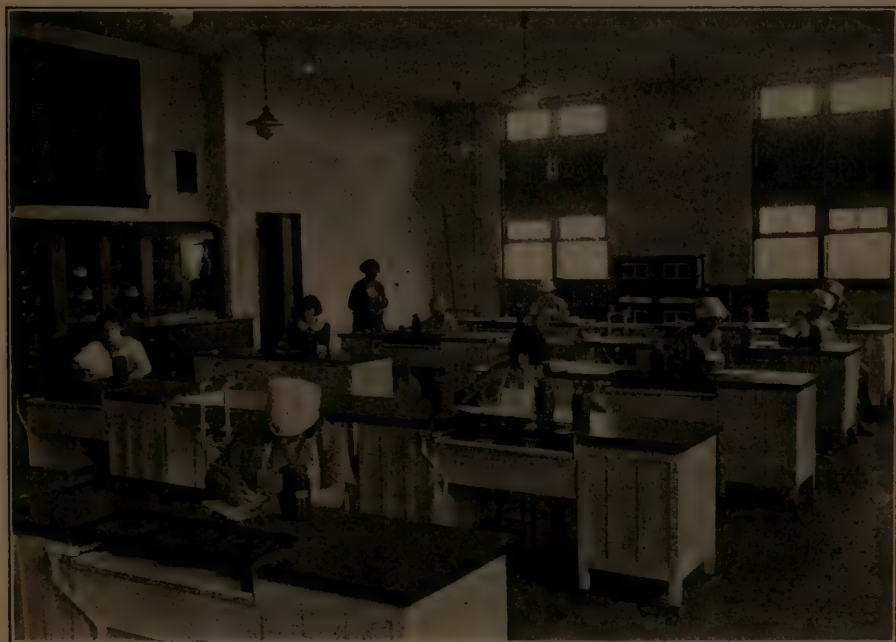
Fruits used for jelly should not be over-ripe, and sometimes it is better to use green fruits, because as fruit ripens it contains less pectin and acid. Tart apples, grapes, currants, crab apples, and plums are good fruits to use for making jelly. Sweet ripe apples, strawberries, blackberries, peaches, and pears are poor fruits from which to make jelly.

Lemon and orange peel contain pectin in considerable amounts and are sometimes used to make fruit juices "jell." Remove the yellow layer of the peel and put the white material that is left through the food-grinder, cover with water and let stand several hours, then cook slowly for two or three hours, strain the liquid, and add it to the fruit juice that lacks pectin. Commercial pectins can be purchased in most grocery stores and are often used in jelly-making.

Sometimes fruits lack acid and are improved for jelly-making by adding lemon juice.

It is always best to test the juice in order to determine how much sugar should be added to make good jelly, since fruits of the same variety vary when grown

under different conditions. This is done by placing one teaspoonful of fruit juice and one teaspoonful of grain alcohol together in a glass and allowing it to stand for five minutes. Pour slowly from the glass and observe the mass formed; if a firm mass that does not break apart has been formed, then the proportion of



FOUR H CANNING CLUB GIRLS SCORING CANNED PRODUCTS, USING SCORECARDS

one cup of sugar to each cup of juice is correct; if the mass breaks apart into several pieces, use three fourths of a cup of sugar to one cup of juice; if the mass shows no distinct lumps, use one half cup or less of sugar to each cup of juice. This test saves a great deal of time and trouble in making jelly.

In straining the juice from the fruit after cooking, a jelly-bag is used. It is usually made from firm cotton cloth that has been thoroughly washed and boiled. The bag may be made three-cornered in shape,

so that the juice drips from a corner when hung to drain.

Jelly is usually put up in glasses made for the purpose. These should be sterilized by placing them in cold water, bringing it to the boiling-point and boiling for twenty minutes. Do not wipe the glasses; take them from the water with a lifter or wooden spoon and fill at once.

Jelly should be covered. An easy method is to use paraffin, which may be melted and poured over the top of the jelly. Cover the glasses, either with the lid that comes with the regular jelly-glass, or with white paper tied on. Store in a dark, cool, dry place.

LABORATORY EXERCISES

JELLY-MAKING

Experiment: Test the following juices to determine what proportion of sugar to juice should be used: grape, sweet apple, plum, crab apple, peach. If necessary, add a measured amount of juice, extracted from lemon peel or orange peel, to the tested juice to make it respond to the test.

Try adding some commercially made pectin to the juices.

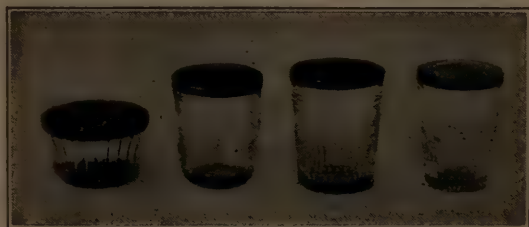
CRAB APPLE JELLY

Wash the apples, cut into quarters, and remove cores. Add water to the apples, using about half as much water as there is fruit. Boil until tender; place in wet jelly-bag; drain, but do not squeeze bag. Measure the juice and measure the amount of sugar to be used according to the pectin test. Boil the juice a few minutes; add the sugar, which has been warmed by placing in the oven; boil gently until the jelly coats the spoon or until a drop "jells" when dropped on a cold saucer. Pour into hot sterilized glasses.

What can you make from the pulp and skins in the bag?

GRAPE JELLY

Choose grapes that are not over-ripe ; wash and pull from stems ; place in stew-kettle ; add one cup of water for each four quarts of grapes. Cook until the grape skins burst and the fruit is thoroughly softened ; place in wet jelly-bag to drain. What proportion of sugar should be used ? Follow directions given under Crab Apple Jelly.



TYPES OF JELLY GLASSES

Make peach or sweet apple jelly : (1) by adding pectin extracted from lemon or orange peel ; (2) by adding commercially made pectin.

Compare the cost of the two jellies.

REVIEW QUESTIONS

1. What two substances must fruit contain before good jelly can be made from it ?
2. Give the steps in jelly-making.
3. How should a jelly-glass be sterilized ?
4. How should jelly be cared for after it is cooled ?
5. What are the characteristics of good jelly ?

CHRISTMAS LESSONS

Home-made candy, packed attractively in pretty boxes or baskets, makes a good Christmas gift.

Small children are better without candy, but it may be used by older persons if it is eaten in reasonable amounts. Candy is more easily digested at the end of a meal than between meals. Candy contains a large proportion of sugar, and sugar when eaten alone is irritating to the digestive organs. Sugar does not contain all of the food constituents or the vitamins which the body needs, and when candy is eaten

between meals, or in too large amounts, the appetite is spoiled and not enough other foods are eaten.

A great deal of sugar is found in some dried fruits, such as raisins, dates, and figs, and in this form sugar is better for the small child than in candy.

Sugar is made either from sugar cane or from sugar beets. The juice, which is extracted by crushing between rollers, is then purified and evaporated; the crystals are removed from the syrup, then dried and sold as "granulated" sugar. When the syrup is run into molds, it hardens, after which it may be sawed into cubes; in this form it is called "loaf" sugar. When ground fine, it is sold as "powdered" sugar; when still more finely ground, it is called "confectioner's" sugar. Brown sugar is sugar that is unrefined.

When making candies that are to be of a creamy consistency, it is better to use part glucose instead of all granulated sugar. Commercial glucose is a syrup that does not crystallize, and therefore helps to keep the candy smooth and creamy. Commercial glucose is manufactured by boiling cornstarch with an acid, and is usually sold in tin containers.

By boiling candy mixtures to different temperatures, different types of syrup may be made. It is always best to use a candy thermometer in order to know when the syrup is cooked enough but not too much. When making fudge, panocha and fondant, the candy should be cooked until it reaches the "soft-ball" stage, 236° F.; for chocolate caramels, cook to the "hard-ball" stage, 254° F.; for butterscotch, popcorn balls, and molasses taffy, cook to the "crack" stage, 270° F.

"Caramelized sugar" is sugar that has been heated without moisture until it melts and becomes a brown syrup. When this is poured over peanuts it is known

as "peanut brittle." Caramelized sugar is used also for flavoring custards and cake icings, and in sauces.

Home-made candies are often purer and cleaner than commercially made candies. When buying, select candy that is handled in a sanitary manner and kept away from dust or flies.

Many stores selling candy also sell sodas or other ice-cream mixtures and beverages of various kinds, and it is very important to know how the soiled dishes and spoons are handled. These should be washed in hot clean water, not merely rinsed in cold water. Some stores use paper dishes or cups, which is a better plan.

Other materials that may be used in cookery to take the place of sugar are honey, maple sugar, and syrups of different kinds.

LABORATORY EXERCISES

CANDIES

FONDANT

2 c. granulated sugar

$\frac{1}{2}$ c. cold water

Mix the sugar and water, place in saucepan over the fire and stir until sugar is dissolved. Allow the syrup to boil gently until it reaches the "soft-ball" stage. Turn into a greased platter and let stand until a thin film forms on the top, then beat with a wooden spoon until it becomes creamy and white. Wash the hands in cold water and knead the fondant. Wrap the fondant in oiled paper and let it stand in the ice-box a few hours, or longer if desired. It is then in good condition for making into various kinds of candy.

Use in the following ways:

1. Add chopped English walnut meats to some of the fondant, flavor with vanilla, mold into balls.
2. Cover almonds with flavored fondant.
3. Remove the seeds from dates and refill with the flavored fondant.

4. With a toothpick, take up a tiny bit of coloring material and add to fondant. Knead until thoroughly mixed, add any flavoring preferred, mold into shape desired.

PEANUT BRITTLE

1 c. sugar

 $\frac{1}{2}$ c. peanuts

Place sugar in frying-pan over fire and stir until the sugar is melted and the syrup is a light brown color. Add peanuts and pour immediately into a buttered pan or plate. Mark into squares when the brittle is slightly cooled.

PANOCHA

1 c. brown sugar

1 tbsp. butter

1 c. granulated sugar

1 c. nut meats

 $\frac{1}{2}$ c. milk

1 tsp. vanilla

 $\frac{1}{16}$ tsp. salt

Mix sugar, milk, and salt. Boil until it reaches the "soft-ball" stage; add butter, vanilla, and chopped nuts; cool slightly, beat until thick, spread on buttered pan. Mark into squares before it is too hard to cut easily.

PARISIAN SWEETS

1 c. figs

1 c. dates

1 c. nuts

Clean dates and figs, and grind the three ingredients through food-grinder. If they are mixed before grinding they blend more easily. Place on bread-board dredged with powdered sugar, knead thoroughly, press out into sheets about one half inch thick. Cut into squares; roll each square in powdered sugar.

Pack boxes and baskets of candy that can be used as gifts for your relatives or friends.

Pack a basket or baskets of food that can be sent as Christmas presents to poor families in the neighborhood. What foods would be suitable to go in the basket? How can the money be earned that will be needed for buying the food?

REVIEW QUESTIONS

1. When should candy be eaten? Why?
2. What may be substituted for candy when a small child wants sweets?
3. From what is sugar made?
4. In what forms may sugar be purchased?
5. What is the price per pound of granulated sugar? Of powdered sugar? Of lump or loaf sugar?
6. How is loaf sugar used?
7. Why is it better to use a thermometer when making candy?
8. To what temperature should a syrup be cooked for the "soft-ball" stage? "Hard-ball" stage? "Crack" stage?
9. Give examples of candies with which each of these temperatures should be used.
10. What is caramelized sugar?

FOOD FOR THE SICK

When serious illness occurs in the family the patient is often taken to a hospital for treatment because there conditions are such that the best of equipment is available, with trained workers to look after the welfare of the patient. There are, however, many cases of illness not serious enough to make it necessary to send the patient to the hospital, yet in which the patient must stay in bed and have good care. In such cases some one in the home must do the nursing and should have some knowledge of such work.

One of the most important things for the home nurse to know is how to prepare and serve the food which the patient needs. Food is especially important, because a poorly nourished body cannot resist nor overcome disease, and in many cases regulating the diet is the main treatment. For special diet of this sort, the home nurse will follow carefully the doctor's instructions regarding kind, amount, and preparation of food.

No one in bed can digest the kind or quantity of food

that the person can who is taking exercise. Patients often are given too much food while in bed; in other instances the patient does not get enough food.

If the invalid's appetite is poor, perhaps it can be stimulated by serving fruit juice, by giving meat broth, or by making the tray extremely attractive.



INVALID'S TRAY, WELL ARRANGED

To make the invalid's tray attractive there are several points to remember:

1. Do not have too great a variety of foods on the tray at one time.
2. Do not serve large portions of food.
3. Have all foods well cooked and served in a neat way.
4. Use attractive dishes and linen that is absolutely clean.
5. A flower on the tray makes it more attractive. It may be laid on the tray or placed in a small vase which is set on it.

6. Sometimes serving the meal as two courses will make it more appetizing to the patient.

7. Used dishes and trays should be removed from the room as soon as the patient is done with them, and in the case of contagious diseases, such as a cold or a sore throat, keep the dishes separate from those used by other members of the family. They should be washed separately, then placed in a kettle of cold water, set on the stove, and slowly brought to boiling-point; then allowed to stand in the water until it is cold. Always wash your hands with soap after handling dishes or other things touched by the patient.

8. The tray used for serving the meal should be large enough, but not so large that it is hard to handle. A rectangular tray is more convenient than a round one.

9. The temperature of the food served must be watched carefully. As a rule hot foods should be served hot and cold foods served cold, but under certain conditions the rule may have to be modified.

10. Never ask a sick person what kind of food is desired. When the food is a "surprise" it sometimes stimulates the appetite.

Dietaries for invalids may be classified in the following way :

1. *Liquid*, including broths, beef extract, beef tea, milk, gruels, egg-nog, cream soups, cocoa, etc.

2. *Soft*, including soft-cooked eggs, milk toast, junket, cooked custards, jellies, etc.

3. *Soft solid*, including eggs, creamed toast, asparagus, baked custards, tender chicken, oysters, creamed sweetbreads, etc.

4. *Special diet*, one ordered by a physician for a particular case.

In many cases of illness it is well to consult the physician regarding the type of diet that the patient should be given. In the case of high temperatures, it is wise to give plenty of water with a liquid diet; in cases of bad colds, grippe, or similar diseases, a soft diet may be used; in cases of constipation, use coarse foods which contain large quantities of cellulose, such as Graham bread, vegetables, fruits, and cereals. The fruits are especially valuable in the treatment of constipation because of the organic acids they contain. Any one troubled with constipation should eat meals regularly, take plenty of exercise, drink plenty of water, and should be regular in regard to the calls of nature.

The convalescent patient should have his or her requests for certain foods gratified whenever the food is suitable and the requests reasonable.

HOME PROBLEMS AND QUESTIONS

Read in books and bulletins on nursing about the proper kind of sick-room. Make a drawing showing how the room should be arranged.

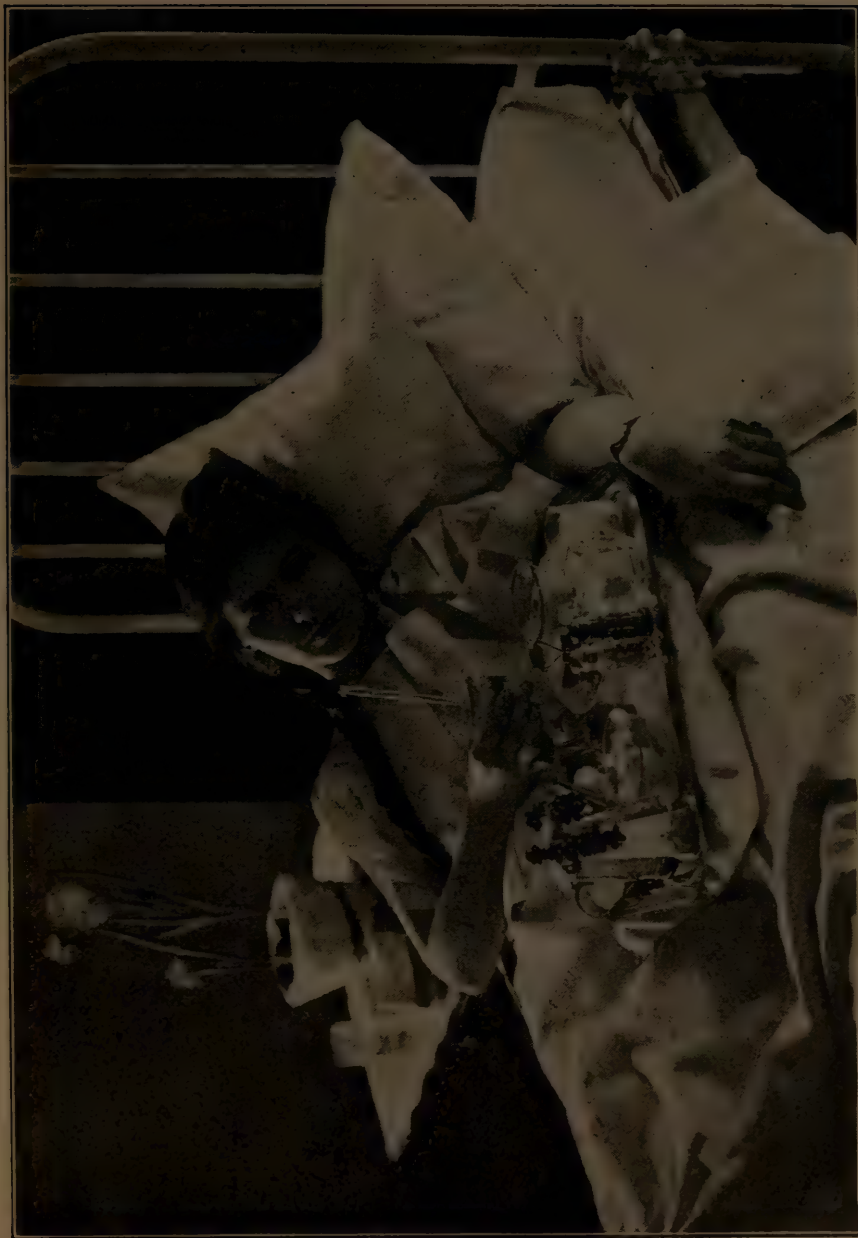
What type of clothing should a home nurse wear? Why?

Make a list of rules a home nurse should follow in caring for any one who is sick. Perhaps a nurse in the neighborhood can give demonstrations on making the patient's bed, giving the patient's bath, and on first aid.

If there is some one ill in your home, perhaps you can help in caring for the patient or can prepare the meal tray.

Make a list of the foods which should be included in the diet of any one troubled with constipation.

Plan a day's menu for your sister or brother or



A CONVENIENT ARRANGEMENT OF THE TRAY ON THE TOP OF A PILLOW. OBSERVE THE GLASS TUBE THROUGH WHICH LIQUID FOOD MAY BE TAKEN

cousin, twelve years old, to eat when sick with (1) cold, (2) fever, (3) constipation, (4) anæmia.

What would you do for any one who fainted? Ask the school nurse.

LABORATORY EXERCISES

INVALID COOKERY

JUNKET

$\frac{3}{4}$ c. milk	$\frac{1}{4}$ junket tablet
1 tbsp. sugar	1 tsp. cold water
$\frac{1}{4}$ tsp. vanilla	Few grains salt

Dissolve a junket tablet in the cold water. Heat milk in top part of double-boiler, add sugar, salt, flavoring, and the dissolved junket tablet. Pour quickly into small molds, let stand in a warm place until set, then put in a cold place to chill. Remove from molds and serve with or without sugar and cream. Sugar in recipe may be omitted if desired.

EGGNOG

1 egg	$1\frac{1}{2}$ tbsp. fruit juice <i>or</i>
$\frac{3}{4}$ tbsp. sugar	$\frac{1}{4}$ tsp. vanilla
Few grains salt	$\frac{2}{3}$ c. cold milk

Beat egg slightly; add sugar, salt, and fruit juice slowly; and add the milk gradually. Strain and serve. Sugar may be omitted if the fruit juice is sweetened.

BEEF TEA

1 lb. round steak	3 c. cold water
Salt	

Put the meat through food-grinder. Add water and let stand for one hour. Place in double-boiler and heat for two hours, only allowing the water in the lower part of double-boiler to simmer. Strain the liquid from the meat, letting it drip dry; remove the fat. To remove the fat allow the broth to get cold, when the fat will form a cake on top of the

soup and can be easily lifted or scraped off. Another way to remove the fat, while the soup is warm, is by placing a small piece of ice in a clean white cloth and running it around over the top of the soup. Reheat the broth for serving.

Beef tea is usually served when the doctor orders it for a patient, since other soups are more appetizing for invalids who can eat them.

BRAN MUFFINS

(Good for any one troubled with constipation)

1 egg	$\frac{1}{2}$ c. Graham or whole-
2 tbsp. molasses or sugar	wheat flour
1 c. milk	$\frac{1}{2}$ c. raisins
1 c. bran	$\frac{1}{2}$ tsp. salt
2 tsp. baking powder	

Beat the eggs until light, add the milk, then the molasses slowly. Mix the bran, flour, salt, and baking powder, and stir the dry mixture into the liquid mixture. Chop the raisins, flour, and add to mixture. Grease muffin tins and fill each about two thirds full. Bake twenty to thirty minutes in a moderate oven (350°–400° F.).

EGG IN A NEST

Beat the white of an egg until stiff, add a few grains of salt. Butter a slice of toast and pour two tablespoonfuls of boiling water over toast. Place the egg-white on top of the toast, forming a nest. In this nest carefully place the unbroken yolk of the egg. Bake in a moderate oven until the egg-white is slightly brown.

REVIEW QUESTIONS

1. State the points that are essential to remember when preparing an invalid's tray.
2. Into what classes may diets for invalids be divided?
3. Make a day's menu for a patient who is in bed with a bad cold. What type of diet is this?
4. What foods should be eaten when one is troubled with constipation?

5. State several ways in which milk may be served to invalids living on a liquid diet.

6. State several ways in which egg may be served to an invalid living on a soft diet.



EGG IN A NEST

7. Why are milk and eggs important foods to use in invalid cookery?

8. Should a large amount of meat be used in an invalid's diet? Why? Name some kinds to serve and ways of preparing them for an invalid on a soft-solid diet.

9. Where can junket tablets be purchased?

REFERENCE BOOKS FOR TEACHERS

MEAL PLANNING AND PREPARATION

The American Home Diet by McCollum and Simmonds, published by F. C. Mathews. Detroit, Mich. \$3.50

Feeding the Family by Rose, published by The Macmillan Company, New York City. \$2.10

Source, Chemistry and Use of Food Products by Bailey, published by P. Blakiston's Son & Company, Philadelphia, Pa. \$2.58

Nutrition and Diet by Conley, published by American Book Company, New York City. \$.88

Food, What It Is and Does by Greer, published by Ginn & Company, New York City. \$1.32

School and Home Cooking by Greer, published by Allyn & Bacon, Boston. \$1.60

A Study of Foods by Wardall and White, published by Ginn & Company, New York City. \$1.12

Dietetics for High School by Willard and Gillette, published by The Macmillan Company, New York City. \$1.50

The Newer Knowledge of Nutrition by McCollum, published by The Macmillan Company, New York City. \$3.80

Food Facts for Every Day by Winchell, published by J. B. Lippincott Company, Philadelphia, Pa. \$.86

Food Products by Sherman, published by The Macmillan Company, New York City. \$2.40

School Feeding by Bryant, published by J. B. Lippincott Company, Philadelphia, Pa. \$3.00

Successful Canning and Preserving by Powell, published by J. B. Lippincott Company, Philadelphia, Pa. \$2.50

Meal Planning and Table Service by Bailey and Busse, published by The Manual Arts Press, Peoria, Ill. \$1.60

Food Preparation and Serving by Bailey, published by Webb Publishing Company, St. Paul, Minn. \$1.50

Food Study for High Schools by Wellman, published by Little, Brown, & Company, Boston, Mass. \$1.50

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